



Final

Community Involvement Plan Update

Marine Corps Base Camp Lejeune

North Carolina

December 2015



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Community Involvement Plan Organization

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Section 1: Introduction

This Community Involvement Plan (**CIP**) describes specific outreach methods to provide factual and timely information, obtain community feedback, and promote understanding of the Environmental Restoration Program (**ERP**) at Marine Corps Base Camp Lejeune (hereafter Camp Lejeune). The plan is designed to support effective two-way communication between Camp Lejeune and both on- and off-Base community members. The outreach methods described were developed based on the results of community interviews conducted in December 2014.

Environmental Restoration Program

In 1989, the United States Environmental Protection Agency (**USEPA**) placed Camp Lejeune on the National Priorities List (**NPL**), commonly known as “Superfund.” Camp Lejeune was included on the list based on soil and groundwater contamination caused by historical disposal, storage, and handling of hazardous materials. Camp Lejeune has since conducted a series of environmental studies and cleanup activities under the United States (**U.S.**) Department of Defense (**DoD**) ERP. The ERP follows the process and procedures set forth in two major environmental acts: the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA**) and the 1986 Superfund Amendments and Reauthorization Act (**SARA**).

The ERP consists of:

The Installation Restoration Program (**IRP**), which addresses releases of hazardous substances, pollutants, or contaminants that may pose risks to human health or the environment; and



The Military Munitions Response Program (**MMRP**), which addresses environmental health and safety hazards from unexploded ordnance (**UXO**), discarded military munitions, and munitions constituents.



Community Involvement

The first CIP was prepared for Camp Lejeune in 1990, following the Base’s inclusion on the NPL, and was updated in 1994, 2005, and 2011. This 2015 CIP is an update to the 2011 plan.

The Naval Facilities Engineering Command (**NAVFAC**) Mid-Atlantic, Camp Lejeune’s Environmental Management Division (**EMD**) representing the U.S. Marine Corps (**USMC**), and the Base Public Affairs Office (PAO) will work together to implement this CIP.

Acronym Use

To make this document more readable, acronym use has been limited. Acronyms that are used repeatedly appear in **bold** the first time they are used. Other acronyms are provided for informational purposes, but are not repeated throughout the document. All acronyms are spelled out in Appendix E.

The following acronyms are repeated in the document:

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
DoD	Department of Defense
EMD	Environmental Management Division
ERP	Environmental Restoration Program
IRP	Installation Restoration Program
MMRP	Military Munitions Response Program
NAVFAC	Naval Facilities Engineering Command
NCDEQ	North Carolina Department of Environmental Quality
NPL	National Priorities List
QR	Quick Response
RAB	Restoration Advisory Board
SARA	Superfund Amendments and Reauthorization Act
TAG	Technical Assistance Grant
TAPP	Technical Assistance for Public Participation
U.S.	United States
USEPA	United States Environmental Protection Agency
USMC	United States Marine Corps

Section 2: The Site

This section describes Camp Lejeune, its environmental history, and the environmental investigation and cleanup process.

Facility Profile

Commissioned 1941

Mission To maintain combat-ready warfighters for deployment and humanitarian missions abroad. Military training operations include 80 live-fire ranges, 34 gun positions, 50 tactical landing zones, 3 urban terrain training facilities, and 11 miles of beach capable of supporting amphibious operations.

Geographic Setting Camp Lejeune is located in eastern North Carolina, southeast of the City of Jacksonville in Onslow County. The Base covers more than 156,000 acres and consists of the geographical areas shown on Figure 1. Neighboring communities, cities, and towns include City of Jacksonville, Verona, Holly Ridge, North Topsail Beach, Surf City, Piney Green, Sneads Ferry, and Swansboro.

Environmental History Historical operations, storage, and disposal practices at Camp Lejeune resulted in environmental impacts to soil and groundwater. Camp Lejeune has been actively engaged in environmental investigations and remediation programs since 1981. Figure 2 provides highlights of the ERP history at Camp Lejeune.



Photo By Cpl. Michelle Reif

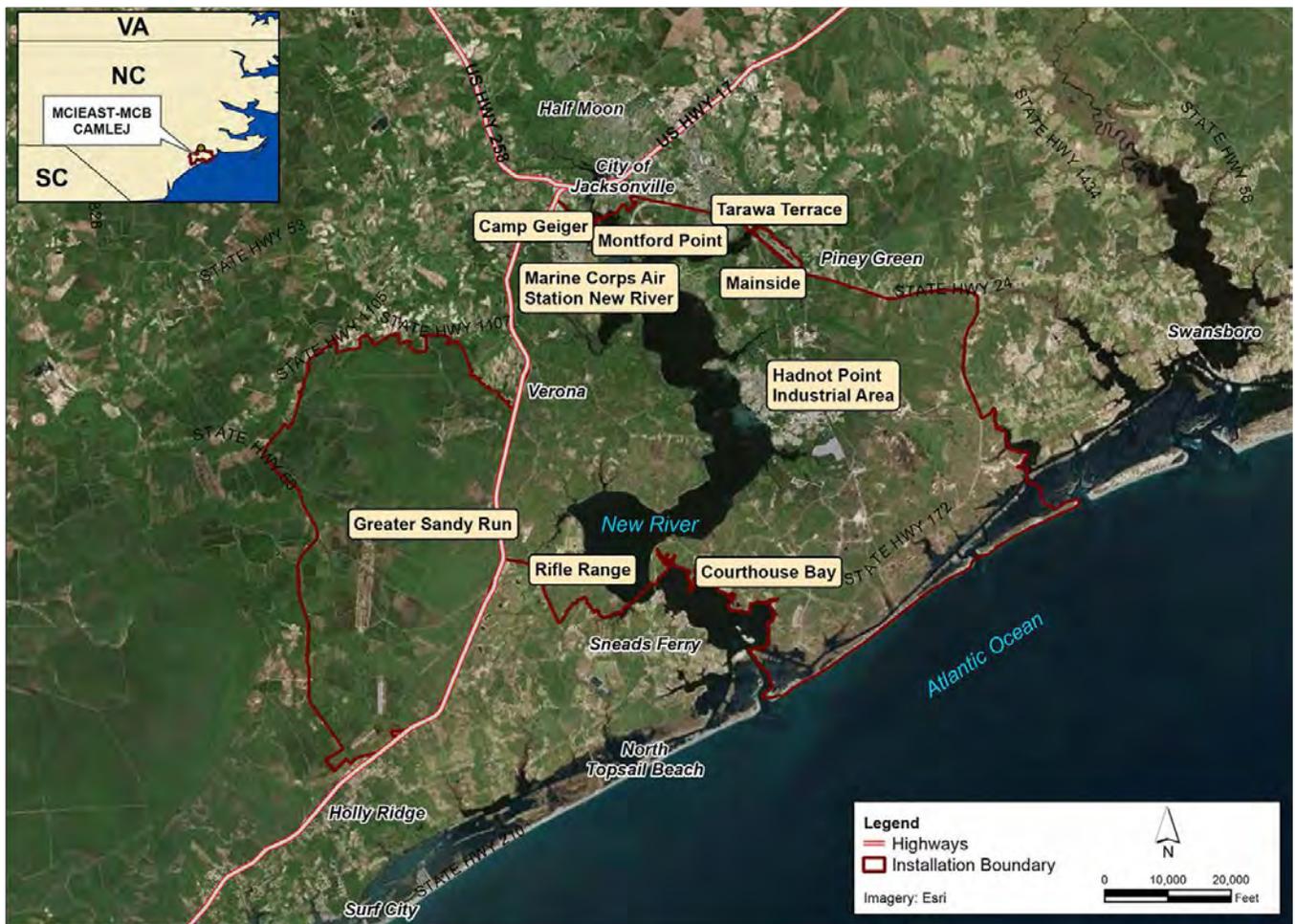


FIGURE 1
CAMP LEJEUNE AREA MAP

Steps in the CERCLA Process

In response to environmental problems that resulted from past disposal methods for hazardous waste, Congress directed USEPA to develop a program to manage and control past disposal sites. This program was established by CERCLA in 1980, amended by SARA in 1986, and is commonly known as Superfund.

Camp Lejeune's ERP follows the process prescribed by CERCLA regulations and guidance for investigating and addressing environmental contamination. The steps of the CERCLA process are shown in Figure 3 and include:

» **Preliminary Assessment/Site Inspection (PA/SI) – The First Look: Is there something there?**

The first step is to determine if there has been a release of hazardous waste or materials causing contamination that warrants further study or cleanup. The Preliminary Assessment involves collecting and reviewing existing information to identify specific potentially contaminated sites. The Site Inspection involves limited sampling of soil, groundwater, surface water, and/or sediment to confirm or deny the presence of contaminants. An Expanded Site Inspection (ESI) may be conducted if more data is needed.

» **Remedial Investigation/Feasibility Study (RI/FS) – A Closer Look: What's there and where is it? What can be done about it?**

The Remedial Investigation determines the nature and extent of contamination and associated human health and ecological risks. If cleanup is determined to be warranted, the Feasibility Study evaluates potential cleanup approaches against a variety of criteria, including technical feasibility, cost-effectiveness, and community acceptance.

» **Proposed Plan (PP) – Public Input: What's the best way to deal with it? What do you think?**

The preferred cleanup approach, based on the evaluation of various alternatives by the Feasibility Study, is documented in the Proposed Plan (also called a Proposed Remedial Action Plan, or PRAP), which is provided to the public for formal comment prior to selecting the remedy.

» **Record of Decision (ROD) – Decision: Here's what we decided and why!**

The ROD documents the selection of the remedy following consideration of public comments received on the Proposed Plan. It includes a reply to public comments on the Proposed Plan.

» **Remedy Implementation – Cleanup Plan and Action: Let's deal with it!**

The Remedial Design (RD) is a detailed plan to implement the remedy documented in the Record of Decision, and the Remedial Action (RA) is the actual construction or implementation of the selected remedy.

For more detail on the various CERCLA steps presented above, see <http://www.epa.gov/superfund/cleanup/>.



Site Status

Investigation and remediation for Camp Lejeune IRP and MMRP sites are conducted following the CERCLA process. The IRP currently includes 68 sites and the MMRP includes 30 sites at various steps in the CERCLA process. Figure 4 describes which sites are in which steps in the process, and Figure 5 shows a map of all the sites.

More detail about each of the sites can be found in the 2016 Site Management Plan (CH2M HILL, 2015).

FIGURE 3
STEPS IN THE CERCLA CLEANUP PROCESS

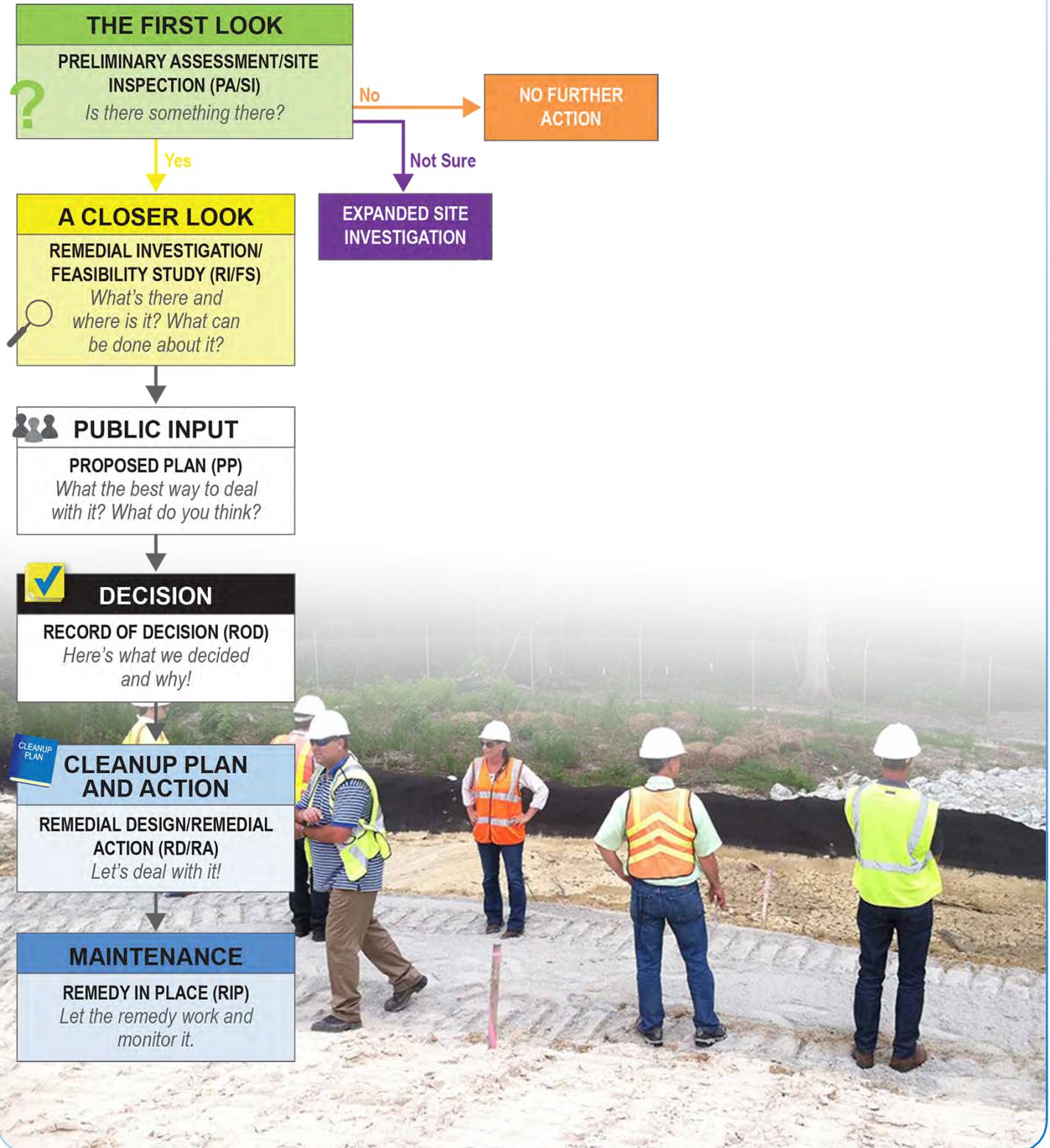


FIGURE 4

Camp Lejeune Sites in the CERCLA Process

Preliminary Assessment/Site Inspection

- UXO-28 Wallace Creek Phase I Munitions Response Site
- UXO-29 New River Runway Expansion Area (ASR #2.1, 2.167, and 2.29)

Remedial Investigation/Feasibility Study

- Site 88 Base Dry Cleaners
- Site 96 Building 1817 UST
- UXO-06 Fortified Beach Assault Area (ASR# 2.65)
- UXO-23 D-9 Skeet Range (ASR# 2.82)

Proposed Plan/Record of Decision

- UXO-19 M-4 Rifle Grenade Range (ASR# 2.104), K-22 Practice Hand Grenade Course (ASR# 2.111), M115 Hand Grenade Course (ASR# 2.168)

Remedial Design/Remedial Action

- Site 69 Rifle Range Chemical Dump
- Site 86 Tank Area AS419-AS421

Remedy in Place

- Site 2 Former Nursery and Day Care Center
- Site 3 Old Creosote Plant
- Site 6 Storage Lots 201 and 203
- Site 10 Original Base Dump
- Site 15 Montford Point Burn Landfill Area
- Site 16 Former Montford Point Burn Dump
- Site 21 Transformer Storage Lot 140
- Site 28 Hadnot Point Burn Dump
- Site 35 Camp Geiger Area Fuel Farm
- Site 36 Camp Geiger Dump Area
- Site 41 Camp Geiger Dump Near Former Trailer Park
- Site 43 Agan Street Dump
- Site 44 Jones Street Dump
- Site 49 MCAS Suspected Minor Dump
- Site 54 Crash Crew Fire Training Burn Pit
- Site 63 Verona Loop Dump
- Site 68 Rifle Range Dump
- Site 73 Courthouse Bay Liquids Disposal Area
- Site 74 Mess Hall Grease Disposal Area
- Site 78 Hadnot Point Industrial Area
- Site 80 Paradise Point Golf Course Maintenance Area
- Site 82 Piney Green Road VOC Area
- Site 84 Building 45 Area
- Site 89 Former DRMO
- Site 93 Building TC-942

Expanded Site Inspection

- Site 37 Camp Geiger Area Surface Dump
- UXO-22 Sites 6 and 82 (OU2)
- UXO-24 Camp Geiger Area

No Further Action

- HPIA Buildings 1120, 1409, and 1512
- MCAS New River Buildings SAS113, AS116, and AS119
- Montford Point Buildings M119 and M315
- Site 1 French Creek Liquids Disposal Area
- Site 4 Sawmill Road Construction Debris Dump
- Site 7 Tarawa Terrace Dump
- Site 9 Fire Fighting Training Pit at Piney Green Road
- Site 12 Explosive Ordnance Disposal (formerly EOD-1, G-4A)
- Site 13 Golf Course Construction Debris Dump
- Site 18 Watkins Village (E) Site
- Site 19 Naval Research Lab Dump
- Site 20 Naval Research Lab Incinerator
- Site 23 Roads and Grounds Building 1105
- Site 24 Industrial Area Fly Ash Dump
- Site 25 Base Incinerator
- Site 30 Sneads Ferry Road Fuel Tank Sludge Area
- Site 38 Camp Geiger Construction Dump
- Site 40 Camp Geiger Area Borrow Pit
- Site 42 Building 705 BOQ Dump
- Site 46 MCAS Main Gate Dump
- Site 48 MCAS Mercury Dump
- Site 51 MCAS Football Field
- Site 53 MCAS Warehouse Building 3525 Area
- Site 55 Air Station East Perimeter Dump
- Site 61 Rhodes Point Road Dump
- Site 62 Race Course Area Dump
- Site 65 Engineer Area Dump
- Site 66 AMTRAC Landing Site and Storage Area
- Site 67 Engineer's TNT Burn Site
- Site 75 MCAS Basketball Court Site
- Site 76 MCAS Curtis Road Site
- Site 85 Former Camp Johnson Battery Dump
- Site 87 MCAS Officer's Housing Area (formerly Site A)
- Site 90 Building BB-9
- Site 91 Building BB-51
- Site 92 Building BB-246
- Site 94 PCX Service Station
- Site 95 Dipping Vat Sites
- UXO-01 Former Live Hand Grenade Course (ASR# 2.23)
- UXO-01 D-6 50-Foot Indoor Rifle and Pistol Range (ASR# 2.64)
- UXO-02 Unnamed Explosive Range (ASR# 2.201)
- UXO-03 Practice Hand Grenade Course (ASR# 2.78a, 2.78b)
- UXO-04 Knox Trailer Park
- UXO-05 Mini Anti-Tank Range (ASR# 2.7a, 2.7b, and 2.7c)
- UXO-07 Practice Hand Grenade Course (ASR# 2.77a, 2.77b)
- UXO-08 2.36-inch Bazooka Range, Base CS Chamber and NBC Training Trail (ASR# 2.182), D-7 Gas Chamber (ASR# 2.80)
- UXO-09 F-9, Triangulation Range (ASR# 2.83)
- UXO-10 D-11A, Flame Tank and Flame Thrower Range (ASR# 2.136)
- UXO-11 B-5, Practice Hand Grenade Course (ASR# 2.281)
- UXO-12 1,000-inch Range (ASR# 2.5)
- UXO-13 Naval Regional Medical Center
- UXO-14 Indoor Pistol Range (ASR# 2.199), Gas Chamber (ASR# 2.200)
- UXO-15 1000-inch Range (ASR# 2.19)
- UXO-16 Former Gun Positions 41A and 41B (ASR# 2.212)
- UXO-17 Firing Position #2 (ASR# 2.212)
- UXO-18 B-6, 50-Foot Small Arms Range (ASR# 2.44)
- UXO-20 1000-inch Range Montford Point (ASR# 2.32), A-1, 50-Foot .22 Caliber Range (ASR# 2.87)
- UXO-21 Gas Chamber (2D MARDIV) (ASR# 2.204)
- UXO-25 Verona Loop
- UXO-26 B-3 Gas Chamber (ASR# 2.79a and 2.79c)
- UXO-27 Gun Position Owl (ASR# 2.212)

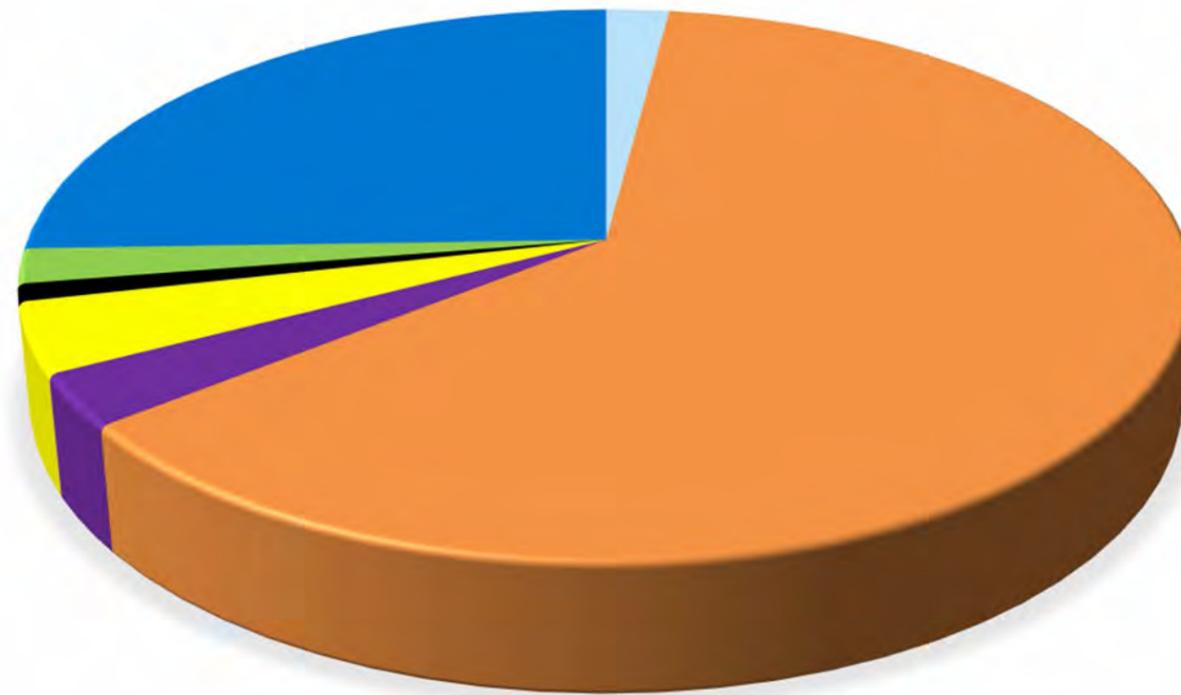
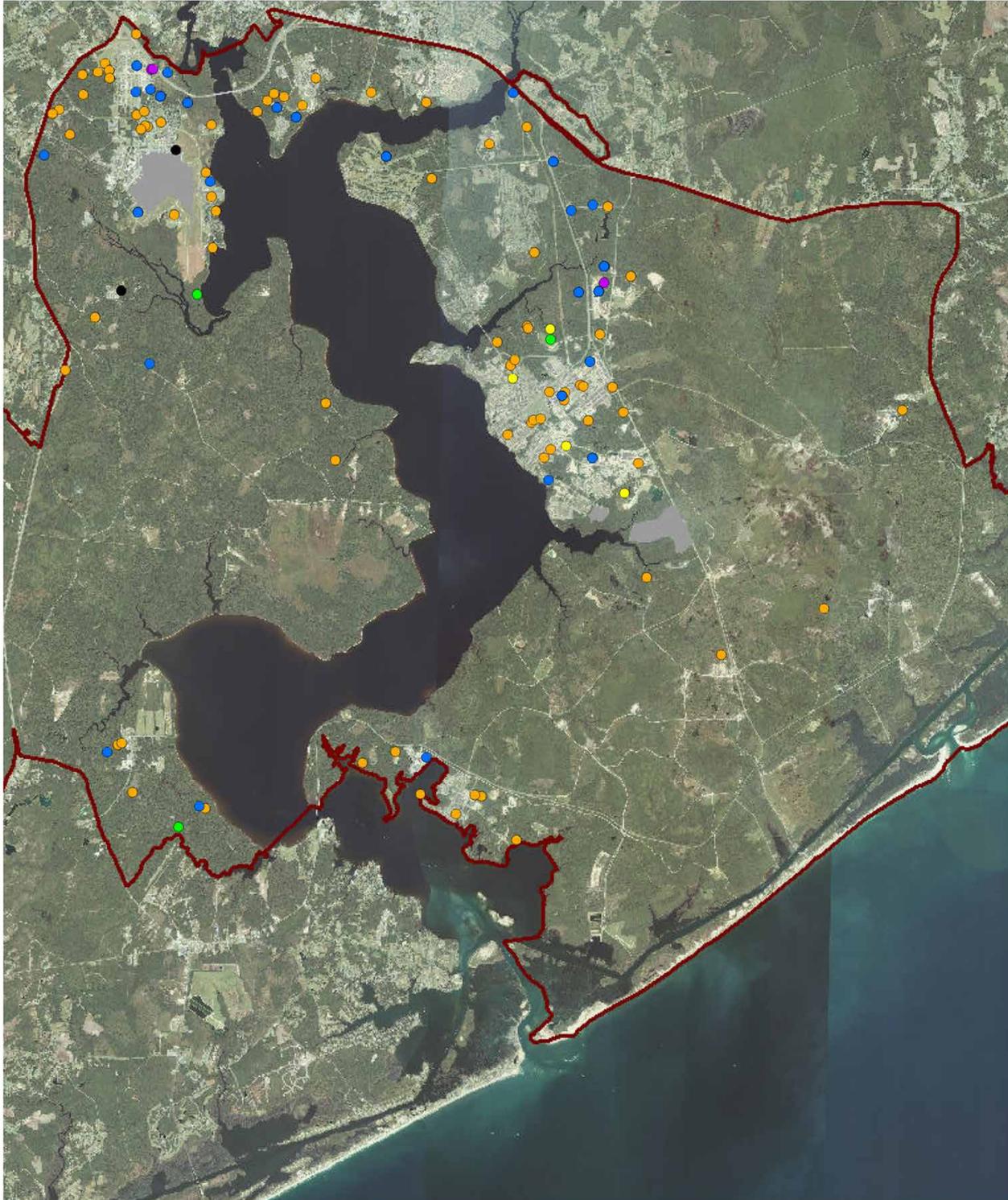
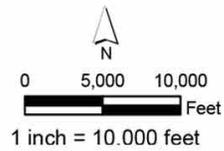


FIGURE 5
IRP AND MMRP SITES IN THE CERCLA PROCESS AT CAMP LEJEUNE



Legend

- PA/SI Sites
- ESI Sites
- RI/FS Sites
- Proposed Plan/ROD Sites
- RD/RA Sites
- NFA Sites
- Remedy In Place Sites
- Installation Boundary



Section 3: The Community

Camp Lejeune enjoys a close relationship with the surrounding community. The Base and Onslow County work together to ensure quality living for both military personnel and civilians throughout the area. This section describes Camp Lejeune's setting within the community.

Community Profile

Environmental Setting The Base includes approximately 72,000 acres of upland forests, 49,000 acres of wetlands, 26,000 acres of water, and 7,500 acres of urban/developed land. The Base boundary includes approximately 14 miles of beach along the Atlantic Ocean. Beach frontage consists of a barrier island system and is separated from the mainland by salt marshes, small bays, and the Atlantic Intracoastal Waterway.

Land Use Several large, publicly owned tracts of land, including Croatan National Forest, Hoffman Forest, and Hammocks Beach State Park, are located within 15 miles of the Base. The remaining surrounding land uses are a mix of urban, suburban, small town, and agricultural, as Onslow County has grown and developed with Camp Lejeune. Estuaries along the coast support commercial fishing, recreation, and tourism, and residential resort areas along the coast are important to the regional economy.

Parks and Recreation Onslow County and City of Jacksonville parks provide many recreational facilities, including: picnic areas; nature trails; boardwalks; water access for boating; tennis, basketball, and volleyball courts; and baseball fields. Camp Lejeune has its own outdoor recreational resources, including Onslow Beach, the 122-acre Brewster Recreation Area, nature and bike trails, archery and skeet shooting ranges, a skate park, pools, and recreation centers.

Medical Facilities Nearby medical facilities include the Naval Hospital Camp Lejeune, serving Marines, retirees, and family members; and the Onslow Memorial Hospital, located in Jacksonville.

Base Services Many services are available on Base, including childcare, shopping, education, family support, hunting and fishing, dining, boating, and swimming. Facilities and infrastructure include banks and credit unions, the commissary, the library, hobby shops, fitness centers, the beach, theaters, a state-of-the-art landfill, and a water treatment system.

Schools North Carolina Camp Lejeune District Schools consists of seven schools, serving students on Base in pre-kindergarten through 12th grade. (U.S. Department of Defense Education Activity website: <http://www.dodea.edu/Americas/NC-CampLejeune/>)

In addition, the Onslow County public school system serves approximately 25,250 students and currently consists of 37 facilities, including 20 elementary schools, 8 middle schools, 7 high schools, 1 early childhood development center, and 1 alternative learning program. (Onslow County Public Schools website: <http://www.onslow.k12.nc.us>)

Drinking Water Sources Potable water is provided to the Base and surrounding area by water supply wells that pump groundwater from the deeper Castle Hayne aquifer. The supply wells are included in the Base's annual wellhead monitoring program to ensure compliance with drinking water standards. Regionally, in southeastern North Carolina, the Castle Hayne aquifer may be used as a potable source of domestic water supply and for watering lawns or filling swimming pools.



Photo By Cpl. Jackeline M. Perez Rivera



Photo By Lance Cpl. Brandon R. Holgerse

Camp Lejeune Historic Drinking Water

In the 1980s, some of Camp Lejeune's drinking water wells were found to be affected by unregulated industrial chemicals.

This issue is not part of the ERP and is therefore not covered in this document. Additional information can be found at:

<https://clnr.hqi.usmc.mil/clwater/>

Or by phone or email:

Phone: (877) 261-9782

Email: clwater@usmc.mil



Population Camp Lejeune and the surrounding community are home to the largest concentration of Marines and Sailors in the world, with an active duty, dependent, retiree, and civilian employee population of more than 160,000 people.

	Onslow County Population	City of Jacksonville Population (including the developed portions of Camp Lejeune)
2010	177,772 ↑ 23 percent since 2000	70,145 ↑ 3.5 percent since 2000
2013 (estimated)	185,220	69,079

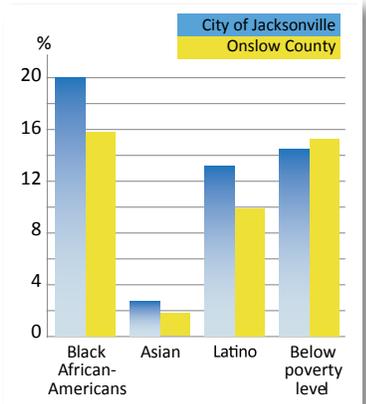
U.S. Census Bureau “Quick Facts”. Quick Facts are derived from Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Non-employer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Environmental Justice The 2010 Census estimates included the following demographic breakdown for Onslow County: about 15.6 percent black/African-American, 1.9 percent Asian, and 10.1 percent Hispanic or Latino origin.

The City of Jacksonville has a higher percentage of minority populations, including 20 percent black/African-American, 2.5 percent Asian, and 13 percent Hispanic or Latino origin (of any race.)

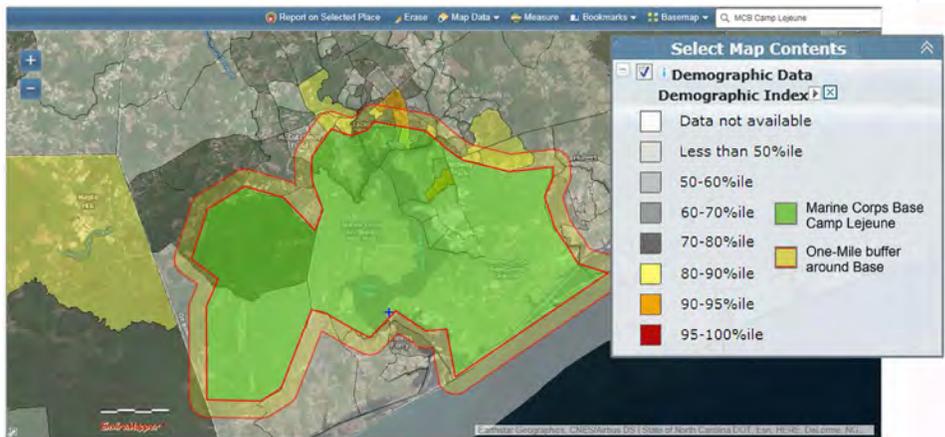
Approximately 14.6 percent of individuals in Jacksonville and nearly 15.2 percent in Onslow County had incomes below the poverty threshold in 2013. (U.S. Census Bureau, American Community Survey 5-Year Estimates, 2013.)

In accordance with Executive Order 12898, USEPA is responsible for addressing environmental justice as it applies to low-income and minority populations. In response, USEPA developed an environmental justice screening and mapping tool, called EJSCREEN (USEPA, 2015). Figure 6 shows the demographic index for a one-mile buffer around Camp Lejeune using EJSCREEN. The demographic index is an average of low-income and minority indicators for each Census block group. The source of the demographic data is the American Community Survey five-year summary file, compiled by the U.S. Census Bureau. The demographic index is used to highlight the potential susceptibility of various population groups to environmental concerns.



Results of EJSCREEN are shown in terms of percentiles, indicating what percent of the U.S. population has a higher value. Percentiles at or above 95 percent are shown in red on the EJSCREEN map to call particular attention to those areas where the value is in the top five percent of the nation. No areas around Camp Lejeune are at the 95th percentile on the demographic index. The map also identifies areas in the 90-95th percentile as orange and those at the 80-90th percentile as yellow. These categories highlight locations with a demographic index well above the national average. Several areas on and around Camp Lejeune have a demographic index above the 80th percentile, meaning that the population in those areas is potentially more susceptible to environmental concerns.

FIGURE 6
DEMOGRAPHIC INDEX RESULTS FROM EJSCREEN



Employment and Income As of November 2014, the unemployment rate in Onslow County was 5.6 percent, down from 8.7 percent in January 2010 (U.S. Department of Labor Statistics). In 2013, median household income in Onslow County was \$45,450, a slight increase from \$45,065 in 2009.

Together, Camp Lejeune and the adjacent community of Jacksonville make up the principal employment center in Onslow County. In 2013, the estimated total economic impact of Camp Lejeune was \$4.3 billion, coming from payrolls; construction contracts; materials, supplies and services; and other local commerce, including healthcare and transportation. (Marine Corps Installations Command East, 2013.)

Section 4: Community Issues, Concerns, and Preferences

To update this CIP, the Base collected information from a broad cross-section of the on- and off-Base community to determine current issues, concerns, and communication preferences related to the ERP. This section describes the process for gathering that information and summarizes the results.

Process for Gathering Community Input

In December 2014, a series of outreach activities to collect information for this CIP Update was implemented, and included:

- » Publishing a public notice in the *Jacksonville Daily News* and *The Globe* newspapers to announce community interviews.
- » Distributing a notice on several Facebook pages targeting Base residents to announce the community interviews.
- » Distributing an “e-blast” announcing community interviews and including an electronic copy of a questionnaire to the Lejeune Wide Area Network (WAN) mailing list and Restoration Advisory Board (RAB) members.
- » Conducting random and voluntary interviews and distributing questionnaires at several on-Base locations (Air Station Exchange, Main Exchange food court, and select office buildings within ERP site boundaries) targeting Base residents, active and retired military, and civilian employees.
- » Contacting off-Base local officials, business owners, and other community leaders by phone and e-mail to schedule in-person and/or telephone interviews.
- » Conducting scheduled, off-Base interviews with local officials, business owners, and other community members.



Two forms of the questionnaire were used to conduct interviews: a 1-page questionnaire was distributed and collected at the Base Exchanges and a longer version was used during personal interviews and for email distribution. A total of 113 questionnaire responses were received.

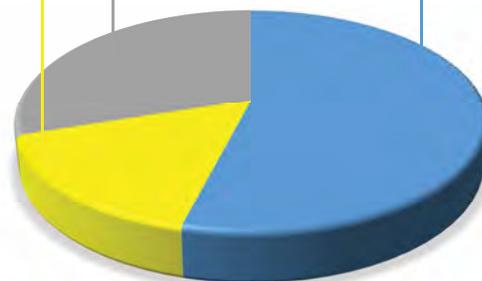
The 34 personal interviews included:

- » 21 Base employees representing five Base buildings
- » 6 local business representatives
- » 4 local environmental group representatives
- » 3 local government representatives

Base Exchange Questionnaires (short) - 61

Email Questionnaires (long) - 18

Personal Interviews - 34



Results of Community Interviews and Questionnaires

Blank copies of the questionnaires and detailed compiled results are included in Appendix A. The results are summarized below.

Base Exchange Questionnaires (short)

The table highlights results of the one-page questionnaire that was distributed at the Air Station Exchange and at the food court of the Main Base Exchange.

RESULTS OF SHORT BASE EXCHANGE QUESTIONNAIRES

Characteristics of Respondents				
Total respondents	61			
How long have you lived in the area?	Average: 6 years			
How far from the Base do you live?	Average: 5-10 miles from Base			
Awareness of ERP				
Are you aware of Base environmental activities?	41% yes	59% no		
Are you aware of the RAB?	7% yes	93% no		
Who would you contact for more information?	67% don't know	7% EMD	18% other	8% did not respond
Interest in Environmental Issues (1 = not interested, 10= very interested)				
How interested is the community in environmental issues?	Average: 6			
How interested are you in the ERP?	Average: 7			

Email Questionnaires (long)

The table below highlights results of the longer questionnaire that was emailed to to the Lejeune Wide Area Network (WAN) mailing list and was sent to members of the RAB and the Government Affairs Committee (GAC), a standing committee of Base and local officials.

RESULTS OF LONG EMAIL QUESTIONNAIRES

Characteristics of Respondents				
Total respondents	18			
Self-identified role in community	Local community resident (15) Retired military (10) Person who previously or currently works or lives on Base (15) Civic or environmental group representative (1)			
How long have you lived in the area?	Average: 26.6 years			
How far from the Base do you live?	Average: 5-10 miles from Base			
Interest in Environmental Issues				
How interested is the community in environmental issues?	Average: 5.6 (1 = not interested, 10= very interested)			
How interested are you in the ERP?	Average: 8.4 (1 = not interested, 10= very interested)			
What environmental issues are important to the community?	Water (stormwater, groundwater, surface water)			
What environmental issues are important to you?	Groundwater (61%) Health (44%) Other: surface water, air quality, munitions			
Awareness of ERP				
Have you ever visited the websites related to ERP?	11% yes	11% no	69% not aware	9% did not respond
Have you ever visited the information repository at library?	16% yes	84% no		
Are you aware of the RAB?	16% yes	84% no		
Who would you contact for more information?	56% don't know	22% EMD		22% did not respond
Feedback on the ERP				
Camp Lejeune, NCDEQ, and USEPA are credible, trustworthy sources of information.	75% agree	25% disagree		
The Base is fulfilling its role as a responsible neighbor in regard to the environmental cleanup.	61% agree	6% disagree	22% don't know	11% did not respond

Personal Interviews

On-Base

Personal interviews were conducted with 21 employees in five buildings on-Base, all located near ERP sites. Most of the buildings were included in the Basewide vapor intrusion study.

Interviewees were divided on how concerned they are about environmental contamination and potential health effects. Some interviewees expressed extreme concerns about their own health or that of their colleagues in relation to vapor intrusion of contaminants into their office buildings, while some interviewees working in other buildings also affected by vapor intrusion were not concerned.

The people who expressed less concern about vapor intrusion tended to feel more satisfied with communication about the environmental cleanup program, while those who were more concerned tended to feel less satisfied. While they received frequent updates, they found the information difficult to understand and did not trust it. Several of these respondents did not think anything could be done to make them trust the information they receive, while others were interested in having information provided in a more user-friendly format.

Off-Base

Results of the 2014 off-Base community interviews – like those of the 2009 interviews - generally reflect an excellent relationship between Camp Lejeune and the surrounding community. Participants in the survey described a generally positive local perception of the Base. The interviews demonstrated that the community's positive reaction exists largely because the Base provides the foundation of the local economy and is the area's largest employer. Camp Lejeune also conducts many community relations and educational outreach activities that are very well received by the local community. Business representatives and government officials praised two standing committees – the Government Affairs Committee and the Military Affairs Committee (MAC). The Government Affairs Committee serves as a forum for communication between Base commanders and local government officials, while the Military Affairs Committee serves the same purpose between the Base and business members of the Jacksonville-Onslow County Chamber of Commerce.

The environmental cleanup program is generally well-received by the members of the public who are aware of it. Most off-Base interviewees are generally (although not specifically) aware of the ERP, and feel that the Base is a responsible environmental neighbor.

However, the majority of interviewees, particularly those who do not participate in the Government Affairs Committee or the Military Affairs Committee, were unaware of the RAB, the Administrative Record at the Onslow County Public Library, and the Base environmental website.

Off-Base interviewees indicated general concern for the local environment, and emphasized surface water quality and stormwater runoff as issues of local community concern, particularly because the region's tourism and recreation activities tend to be water-based. Other local environmental concerns included rapid development and potential loss of natural areas, as well as trash and household hazardous waste.

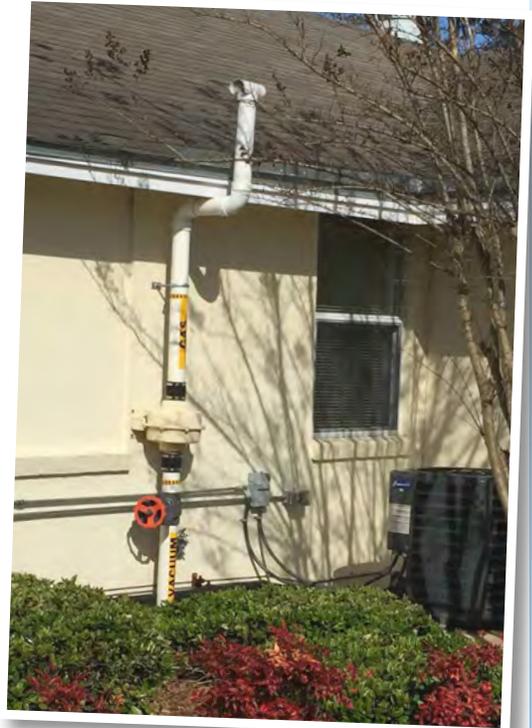


Photo by Cpl. Jackeline M. Perez Rivera

Issues and Concerns Related to the ERP

This section summarizes the results of all the interviews and questionnaires. Results of the interviews and questionnaires related to the ERP can be placed in three categories: awareness, confidence, and environmental concerns.

Awareness

» Of the ERP

In general, people are aware that the Base is conducting an environmental investigation and remediation program. Overall, 61 percent of those contacted were aware of the ERP. However, Base Exchange responses tended to target younger, active military personnel who have lived at Camp Lejeune for fewer years (nearly 50 percent of them for less than one year.) Among the Base Exchange responses, only 41 percent were aware of the ERP. Written questionnaires and personal interviews tended to target those who have lived in the area much longer (an average of 26 years). Among those who have lived in the area longer, 86 percent were aware of the ERP.

» Of the RAB

Only three of the 2014 interviewees had ever attended a RAB meeting – all are RAB members. Most other interviewees were not aware of the RAB. Interviewees stated that people just do not go to public meetings; they do not have the time even if they know about the meetings. However, when they learned about the RAB from the interviews or questionnaires, 25 respondents asked to have their contact information added to the RAB mailing list.

» Of Camp Lejeune Environmental Websites

Camp Lejeune maintains several websites related to the ERP. However, the majority of 2014 respondents were not aware of them or have not visited the Navy's ERP website (89 percent), the RAB website (93 percent), or the surface danger zones website (93 percent). Similarly, in 2009, only 2 of the 19 people interviewed (10 percent) were aware of the ERP website.

» Of the Information Repository

Interviews for all previous CIP updates have found that most people were unaware of the information repository at the public library. Similarly, the 2014 interviews revealed that only 3 percent had ever visited the Information Repository, and 62 percent were unaware that it exists.

Confidence

» In the ERP and Camp Lejeune

Although knowledge of the ERP is lacking, community members continue to express confidence and most believe "the Base will do what is right." Previous versions of the CIP indicate a high level of trust in the Base's cleanup efforts and its role as a part of the community, and continued confidence in the ERP. Similarly, in 2014, the majority of respondents agreed that Camp Lejeune is a responsible neighbor regarding environmental cleanup.

» In Regulatory Agencies

Interview respondents have had limited interaction with federal and state officials. Most people contact local officials or Camp Lejeune (EMD or Public Affairs) directly if they have any questions or concerns related to the facility, and they indicated satisfaction with responsiveness. Those interviewees who have communicated directly with USEPA or NCDEQ officials also tended to feel that their concerns or questions were satisfied. However, several on-Base interviewees who work in buildings affected by vapor intrusion expressed distrust or indifference to the involvement of these state and federal agencies, while two respondents felt better knowing that they were involved. One of these stated "it is good to know there are checks and balances."

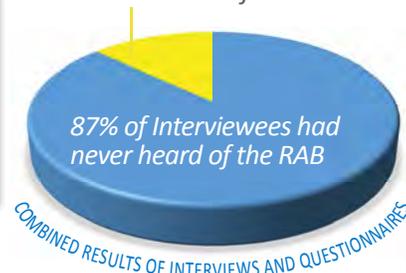
» In the Media

Respondents were divided on the role of the local print media in publicizing Camp Lejeune's environmental program. Many respondents indicated that they "no longer" read the newspaper (the *Jacksonville Daily News* and/ or *The Globe*.) However, many respondents also indicated that newspaper articles (more than public notices) are a good way to get information out to the public, particularly because the articles are also carried in the online versions of the papers and can be shared through social media such as Facebook.

"People just do not go to public meetings; they do not have the time even if they know about the meetings."



Only 13% of Interviewees had heard of the RAB



"Camp Lejeune is a responsible neighbor regarding environmental cleanup."



Environmental Concerns

Several 2014 interviewees expressed concern that contaminated groundwater could migrate off-Base, especially if affected groundwater were to discharge into rivers and estuaries used for fisheries and recreation.

Few interviewees expressed concern related to munitions or unexploded ordnance debris on public land or in the New River. Those that did mention the issue are boaters and said that they had seen signs or heard about the issue, as it related both to Camp Lejeune and also to nearby Cat Island (associated with Marine Corps Air Station Cherry Point.)

When asked about their specific concerns about environmental or munitions sites at Camp Lejeune, 2014 respondents identified the following categories of concern: potential health issues (28 percent), groundwater (22 percent), surface water (15 percent), air quality (14 percent), munitions (13 percent), none (7 percent) and other, such as drinking water or mercury (1 percent).



Other Issues and Concerns Unrelated to ERP

This section summarizes non-ERP-related issues and concerns that came up in the the personal interviews and written questionnaires.

Environmental Issues

Nearly all of the community members interviewed in 2014, as in 2009, stated that the local community is concerned about environmental issues, although when they ranked the issue on a scale of 1 to 10, average rankings were 5.6 to 6.4. Respondents commented on the benefits of the natural resources in the area, particularly in relation to tourism and the local economy, and a growing desire to take steps to protect these resources.

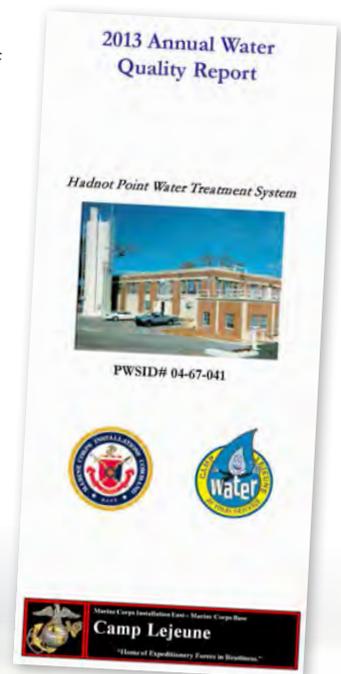
The primary environmental concern identified by community members is surface water quality in the New River and estuary, the effect that water quality has on fish and other aquatic species, and how water quality is related to recreational activities and tourism in the region. Stormwater runoff was also mentioned as a contributor to water quality issues.

In addition, several respondents commented on regional litter and recycling programs, and the need for the local community to collect household hazardous waste and paint. The Base collects household hazardous waste, and these interviewees expressed an interest in having the Base partner with the City of Jacksonville or Onslow County to provide similar services to off-Base residents.

Historical Drinking Water Contamination

Several interviewees expressed an ongoing concern about potential health effects from drinking water contamination in the 1980s. In 2014, as in the 2009 interviews, most of those said that they understand that the release came primarily from an off-Base source. Those interviewees who mentioned it still felt it important for the Base to “take care of its own.” A few Base employees (both active-duty and civilian) stated that they still will not drink the water, even though they “know it is supposedly safe now.”

Several off-Base interviewees said they do not think the USMC has taken full responsibility for the historical drinking water issue. Several other respondents indicated they felt the opposite - that the USMC is doing a good job taking responsibility. One interviewee stated “the drinking water issue was one of the few credibility issues the Base has ever had. They don’t want any more credibility issues! [So the Base is] taking care of its Marines.”



Recommendations for Improving Communication about the ERP

Interviewees made many recommendations for improving communication about the ERP, including:

Participate in local festivals.

The Base already sponsors an Earth Day event, but the ERP could have a display and information available at other local events, such as the Hammocks Beach State Park military appreciation day, the Sneads Ferry Shrimp Festival, and the Swansboro Mullet Festival.

“Get the good news out.”

Several respondents emphasized the people don’t know enough about the good work that the Navy/Marine Corps is doing with all of its environmental programs.

Post explanatory signs near ERP sites

(e.g., placed near or on a vapor intrusion mitigation system.) Use a “quick response” (QR) code that can be scanned on a smartphone to direct the user to more information online.

Distribute information through the Base’s weekly “all-hands” email messages, particularly for upcoming RAB or public meetings.

Use social media such as Facebook. There are several active Camp Lejeune Facebook pages, as well as pages and groups maintained by local community and environmental groups.

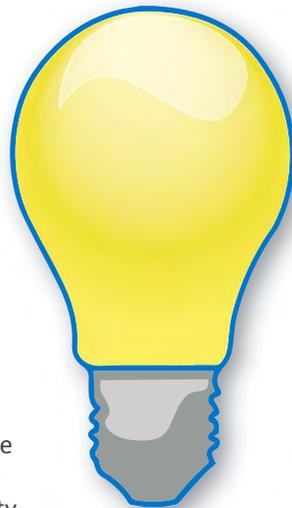
Enable people to **sign up to receive periodic email updates** on the ERP through Base or City websites.

Make short videos of the environmental sites and post them on “You Tube”, Facebook, and the EMD website.

Advertise the Navy’s ERP and Camp Lejeune’s EMD websites and ensure they are easy to navigate and up to date. Review the key words (meta tags) used by search engines to identify these sites and put them at the top of search results.

Coordinate with existing groups that have their own networks. For example, send information out through the Chamber of Commerce’s email list, post announcements in the North Carolina Coastal Federation’s daily online updates, and coordinate more closely with the City of Jacksonville and Onslow County public information offices.

Use other communication channels to inform the community about ERP activities, such as social media, websites, radio announcements, and email communication.



Section 5: Community Involvement Action Plan

Based on the community's issues, concerns, and preferences described in the previous section, this section describes the specific techniques and activities the Base will use to refine its ongoing ERP community involvement program.

Goals and Objectives

The overall goal of the ERP community involvement program is to promote communication between the Navy, Base, and community members throughout the life of the ERP.

Specific objectives include:

- » Continue two-way communication between the Base and concerned individuals, including local residents and local officials.
- » Keep the general public informed of ongoing actions, major findings, and decisions.
- » Furnish accurate, timely, and understandable information to affected and interested parties.
- » Provide a way to monitor public concerns and information needs throughout the ERP process.
- » Provide a mechanism for incorporating public comments into the environmental restoration process in a timely and meaningful way.
- » Gather and update information about neighboring communities.
- » Modify the program as necessary to meet the changing needs of the local community.

This section describes the community involvement techniques and activities that will be implemented to support the public outreach goal and objectives of the ERP. These community involvement activities are organized in two subsections:

- » CERCLA-Required Community Involvement Activities
- » Community Involvement Program Enhancements



CERCLA-Required Community Involvement Activities

CERCLA requires specific community involvement activities to be implemented at various steps in the environmental investigation and remediation process so that the public is kept informed and has an opportunity to be involved in the decision-making process. Tables 1 and 2 show the community involvement activities that are required or recommended for the various steps in the CERCLA process.

TABLE 1
REMEDIAL INVESTIGATION AND ACTION PROCESS – COMMUNITY INVOLVEMENT REQUIREMENTS

Community Involvement Activity	CERCLA Steps						Five-year Review
	PA/SI	RI/FS	PP	ROD	RD	RA	
Administrative Record	■	■	■	■	○ ^a	○ ^a	
Information Repository		■	■	■	■	■	
Community Interviews ^b		■			■		
CIP ^c		○			■		
Public Meetings			■		■ ^d		
Public Notice			■	■	■ ^d	■	■ ^f
Fact Sheet or Summary			○ ^e		○ ^d		
Public Comment Period			■				
Responsiveness Summary				■			

Notes:

- Actions required by CERCLA or SARA regulations, or by Navy ERP or MMRP policy
 - Actions required only under specific circumstances
- a. Only if relevant to later response selection decisions. RD and RA documents, reports, and plans are normally part of the Post Decision File, rather than the Administrative Record, because such documents are not “considered or relied on in the decision process.”
 - b. Community interviews during the CERCLA process typically are conducted before the RI, and if necessary, before the RD. For military installations with multiple sites, these community interviews are conducted as part of the CIP development and updates.
 - c. The CIP will be updated at strategic project milestones to reflect changing community interests and concerns, or at least every 3 to 5 years so long as the ERP is active (in accordance with the Government Performance and Results Act of 1993). When revising the plan, the Navy will determine whether additional community interviews are necessary.
 - d. The National Contingency Plan 40 CFR 300.435(c)(3) requires a fact sheet and public briefing as appropriate at the RD stage. For military installations with multiple sites, this step is typically performed only if RAs are for releases outside installation boundaries or are of particular interest or concern to the surrounding community.
 - e. PPs are typically developed in a fact sheet format. If a more formal report format is used, a summary fact sheet should be prepared.
 - f. Twice, when the Five-year Review is beginning and when that review has been completed, to provide the results of the review.



TABLE 2
REMOVAL ACTION PROCESS – COMMUNITY INVOLVEMENT REQUIREMENTS

Activity	Time Critical Removal Action (TCRA) ^a		Non Time Critical Removal Action (NTCRA) ^b
	Onsite Activity Lasts Less than 120 Days	Onsite Activity Lasts More Than 120 Days	
Administrative Record ^c	■	■	■
Contact State and Local Officials	■	■	
Information Repository		■	■
CIP ^c		■	■
Public Notice ^d	■	■	■
Provide 30-day Comment Period ^d			■
Response to Comments ^d	■	■	■

Notes:

■ Actions required by CERCLA or SARA regulations, or by Navy ERP policy

- Releases or threats of releases that require cleanup to begin within 6 months after the lead agency determines that a removal action is necessary.
- Releases or threats of releases that do not require cleanup to begin within 6 months after the lead agency determines that a removal action is necessary.
- The existing Camp Lejeune Administrative Record file for Basewide ERP activities will be updated as necessary. Depending on the anticipated level of community interest or concern, the CIP may also need to be updated.
- If appropriate for a TCRA, that is, if the community might be affected and public comments on the removal action are expected to affect future action at the site, a public comment period should be held during the planning or execution of the removal action. For an NTCRA, a public comment period is held for the Action Memorandum and Engineering Evaluation/Cost Analysis. When a public comment period is held, a responsiveness summary is prepared.



Support the Restoration Advisory Board

Goal To gain effective input from community stakeholders on cleanup activities and to share information with the public through the RAB members and meetings.

Current Activities Camp Lejeune's RAB is an advisory group for the environmental restoration process, with members from the public, the Base, the Navy, and the regulatory agencies. The RAB is co-chaired by an appointed Base representative (Ms. Charity Delaney of EMD) and an elected community representative (Mr. Michael Curtis). Currently:

- » The RAB meets quarterly to review ongoing investigation activities and findings, and to discuss cleanup alternatives and actions.
- » RAB meetings are held on weekdays in the evening and are open to the public.
- » Meetings are held at the Coastal Carolina Community College.
- » The Navy/Marine Corps maintains an electronic mailing list to notify RAB members and other interested stakeholders about upcoming meetings.
- » The Navy/Marine Corps advertises RAB meetings in the *Jacksonville Daily News* and *The Globe* (and previously, in *The RotoVue*, until it became an insert in *The Globe*).
- » RAB meeting minutes are posted to the RAB website and are available in the electronic Administrative Record file.
- » As needed or requested, tours of cleanup sites and other program locations have been conducted for RAB members.

Plan The Navy/Marine Corps will continue all current RAB activities to enlist the support and cooperation of RAB members. A list of current RAB members is provided in Appendix B.

In addition, the following activities may be implemented:

- » Hold RAB meetings in different locations to attract people in other communities. Tailor the presentations to those communities.
- » Use free online and newspaper community calendars, public service announcements on the radio, and Camp Lejeune's weekly email "blast" to advertise upcoming RAB meetings.
- » List the RAB website on public notices and fact sheets.
- » Broadcast the RAB meetings by webcast so that people do not have to attend in person.
- » Use more graphics, photos, and short videos to demonstrate the "life cycle" of sites and cleanup actions. Post these on the RAB website.
- » Invite speakers on other Base environmental issues (e.g., wildlife).

Timing RAB meetings will continue to be held quarterly and new stakeholders will be added to the RAB email list quarterly. Public notices will continue to be published in the *Jacksonville Daily News* and *The Globe* newspapers at least one week before scheduled RAB meetings. Any other methods used to advertise the RAB meetings will also be conducted at least one week prior to the meeting date.

Maintain and Update Mailing Lists

Goal To enable the Navy/Marine Corps to mail or email information to stakeholders about ERP activities and upcoming meetings.

Current Activities

- » The Navy/Marine Corps maintains a list of people to notify for upcoming RAB meetings and other significant ERP activities, such as the start of public comment periods. New stakeholders are added to the list upon request.
- » The Navy/Marine Corps periodically develops targeted mailing lists to notify interested parties of an investigation or cleanup action that could affect them.

Plan The Navy/Marine Corps will continue to maintain its existing RAB mailing list and will:

- » Continue to add new stakeholders upon request.
- » Consider providing a link on the Camp Lejeune EMD and/or RAB website for users to be added to the RAB mailing list.
- » Supplement the list of key local contacts found in Appendix B to develop mailing lists for specific activities or issues using the county property tax database.

Timing The RAB mailing list will be maintained and updated quarterly. Specific activity mailing lists will be established, maintained, and updated as needed based on site activities.



Publish Public Notices

Goal To notify interested persons about events and activities related to the ERP and to meet regulatory requirements for advertising comment periods and public hearings.

Current Activities The Navy/Marine Corps currently publishes public notices (as paid display advertisements) in *The Globe* and the *Jacksonville Daily News* to announce RAB meetings, other public meetings, and public comment periods. A list of local media contacts is included in Appendix B and examples of public notices are provided in Appendix C.

Plan The Navy/Marine Corps will continue all current activities and consider implementing the following activities:

- » Publicize RAB meetings, other public meetings, and comment periods using online event calendars, such as the City of Jacksonville, Onslow County, and Marine Corps Community Services online event calendars.
- » Announce RAB meetings, other public meetings, and comment periods through radio broadcast public service announcements, using radio stations such as 96.3. (Appendix B provides a list of radio stations.)

Timing Public notices will continue to be published approximately two weeks before a public meeting or beginning of a public comment period. Additional announcements, if implemented, will also occur within the two-week period.

Hold Public Meetings

Goal To provide the public with a chance to learn about the status of site cleanups and to discuss questions, concerns, and comments on proposed remediation alternatives.

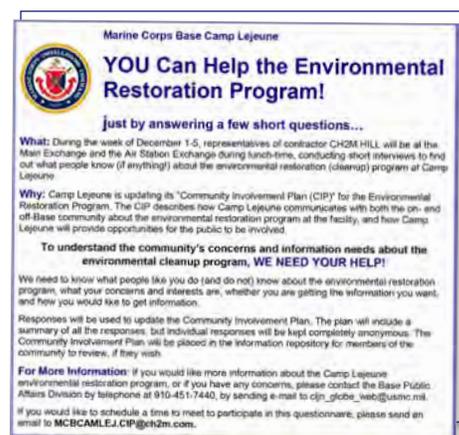
Current Activities Public meetings are held to enable community members to learn about ERP activities at Camp Lejeune and to voice their concerns and questions. Under CERCLA regulations, public hearings (with a court reporter to transcribe the meeting) must be held whenever a formal public comment period is required.

- » Like RAB meetings, public meetings are usually held offsite at the Coastal Carolina Community College, which is easily accessible to both on- and off-Base community members.
- » Public meetings are typically scheduled in conjunction with RAB meetings and at a time to encourage the greatest possible participation and focus on soliciting comments from the public.
- » The meetings are publicized at the start of a public comment period and are held during the 30-day comment period. A presentation is provided at the meeting and attendees have an opportunity to ask questions and make comments.
- » During formal public comment periods, a transcript of the meeting is prepared and is made available to the public as an appendix to the Action Memorandum (AM) or Record of Decision, which becomes part of the Administrative Record file.
- » Occasionally, stakeholder meetings are held for issues of particular public interest, such as vapor intrusion investigation and mitigation.

Plan The Navy/Marine Corps will continue to hold public meetings and may:

- » Use additional methods for advertising public meetings, such as email, radio public service announcements, and online event calendars.
- » Evaluate the need to hold additional public meetings associated with a specific environmental project or activity of public interest.
- » Hold public meetings in different locations to attract people from various communities.
- » Broadcast public meetings by webcast.

Timing The Navy/Marine Corps will continue to hold (or offer to hold) public meetings as required by CERCLA. Additional public meetings may be held as needed or requested.



Provide Comment Periods

Goal To provide the public with an opportunity for meaningful involvement in the decision-making process and to provide the Navy/Marine Corps with community input before cleanup decisions are made.

Current Activities As required by CERCLA, public comment periods lasting a minimum of 30 days give the public an opportunity to comment on removal actions and final remedial actions. Public notices are published to announce the 30-day public comment period. The notices include a brief description of the document, information on where to obtain more information, and a written address to which comments should be mailed. Documents associated with public comment periods are made available in the information repository at the library.

Plan Public comment periods continue to be advertised and offered as required by CERCLA. In addition, the Navy/Marine Corps will consider:

- » Announcing public comment periods in other ways, such as by email, radio public service announcements, and online event calendars.
- » Offering alternate ways to submit public comments, such as electronically through a form on the website(s), or by sending email.

Timing The Navy/Marine Corps will continue to hold public comment periods as required by CERCLA, and will consider alternate ways to announce them or for people to submit their comments as appropriate.

Prepare Responsiveness Summaries

Goal To summarize comments received during public comment periods and to document how the comments were considered during the decision-making process.

Current Activities As required by CERCLA, a Responsiveness Summary is prepared following a public comment period to document the comments received and the Navy/Marine Corps responses to major comments. The summary provides decision makers information about the community concerns and preferences. It also provides the public with a record of the concerns raised and how the Navy/Marine Corps considered the questions and concerns during decision-making.

Information obtained from public meetings and written comments are used to develop a Responsiveness Summary, which is included in the Record of Decision (or Action Memorandum), and placed in the information repository and Administrative Record file.

Plan The Navy/Marine Corps will continue to publish Responsiveness Summaries as required. No changes to current activities are planned.

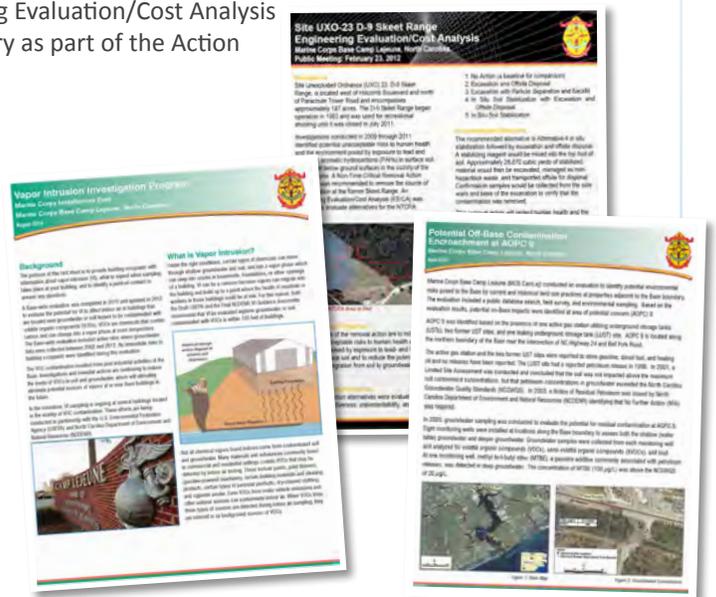
Timing For a Proposed Plan, the Navy/Marine Corps issues the Responsiveness Summary as part of the Record of Decision that documents the selected remedy. For an Engineering Evaluation/Cost Analysis (EE/CA), the Navy/Marine Corps issues the Responsiveness Summary as part of the Action Memorandum that documents the selected alternative.

Prepare and Distribute Fact Sheets

Goal To provide current, accurate, easy-to-understand information about ERP activities in the form of written fact sheets.

Current Activities The Navy/Marine Corps currently develops Proposed Plans as part of the CERCLA process; these documents read like fact sheets and include information on how and when the public can provide comments. They are provided at the library and at public meetings during the public comment period. In addition,

- » Although not specifically required by CERCLA, the Navy/Marine Corps often prepares a fact sheet for the public meeting when an Engineering Evaluation/Cost Analysis document is available for public comment.

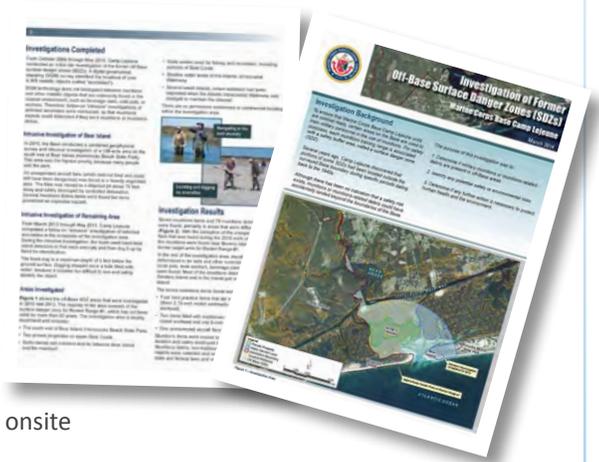


- » The Navy/Marine Corps develops fact sheets as needed for informational purposes. These are also not required, but are prepared when work is being conducted in populated areas or when stakeholders may be particularly interested. Appendix C provides examples of recent fact sheets on topics such as vapor intrusion and investigation of off-Base surface danger zones.

Plan The Navy/Marine Corps may continue to produce fact sheets as required and as needed. Specifically, the Navy/Marine Corps may:

- » Ensure that fact sheets contain website and contact information.
- » Place fact sheets on the ERP website, as appropriate.
- » Consider producing brief fact sheets for environmental monitoring, investigation, or remediation systems that are visible to the public and distribute them in lobbies of nearby buildings or to be used as handouts by onsite environmental workers.
- » Consider producing fact sheets for other significant technical milestones that may be of potential interest to the community, such as Five-Year Reviews.

Timing As required during the CERCLA process and as needed for other fact sheets.



Maintain the Information Repository and Administrative Record File

Goal To provide convenient access to site-related information for community members.

Current Activities Under CERCLA regulations, the Navy/Marine Corps is responsible for maintaining an “information repository” containing current documents of potential public interest as well as an official “Administrative Record” containing documents used or relied upon to select a response action. For Camp Lejeune:

- » A series of CDs is located in the reference room at the Onslow County Public Library. The CDs hold final documents used to make cleanup decisions for ERP sites.
- » During a public comment period, the information repository at the library also contains the document (such as a Proposed Plan) that is under review.
- » The official Administrative Record is maintained by NAVFAC Mid-Atlantic in Norfolk, Virginia, and is available for review upon advanced request.
- » For easier accessibility from any computer, an electronic file of the Administrative Record is maintained on the NAVFAC website.

Plan The Navy/Marine Corps will continue to maintain and update the information repository and Administrative Record. No changes to current activities are planned.

Timing Documents for public comment will be placed in the library before the start of a public comment period. CDs at the library will continue to be updated quarterly. Documents will be included in the Administrative Record as work continues under the ERP.



Public Information Repositories			
Repository	Location	Hours	Contact
Onslow County Public Library	58 Doris Avenue East Jacksonville, NC 28540	Monday–Thursday: 0900–2100 Friday–Saturday: 0900–1800 Sunday: 1300–1700 (call to verify hours)	Telephone: 910-455-7350
NAVFAC Administrative Record website	http://go.usa.gov/Dy5T		

Publicize Points of Contacts

Goal To provide community members with clear points of contact for obtaining information about the ERP.

Current Activities A phone number for Ms. Charity Delaney, the RAB co-chair, is provided on the RAB website and in public notices. An appropriate point of contact (depending on the subject matter) is also provided on all fact sheets. Key points of contact and their roles in the ERP are included in the table below.

Key Navy and Marine Corps Points of Contact	
Primary contact for:	Contact Information:
Questions about Camp Lejeune in general	Public Affairs Office Marine Corps Base, PSC Box 20005 Camp Lejeune, NC 28542-0005 910-451-7440 cljn_globe_web@usmc.mil
Questions and concerns about Camp Lejeune's ERP Requests for a public document (e.g., Proposed Plan, Engineering Evaluation/Cost Analysis) Questions about accessing the Administrative Record file	Public Affairs Office NAVFAC Mid-Atlantic 9742 Maryland Avenue Norfolk, VA 23511-3095 757-445-8732, ext. 3096
Questions and information about the RAB	Ms. Charity Delaney, P.E. G-F/EMD/EQB 12 Post Lane Camp Lejeune, NC 28547 910-451-9385 charity.delaney@usmc.mil
Comments on a document during a public comment period	Mr. David Cleland NAVFAC MID-ATLANTIC Marine Corps IPT, Code OPQE3 9324 Virginia Avenue Norfolk, VA 23511 757-341-0329 david.t.cleland@navy.mil

Plan The Navy/Marine Corps will continue to publicize points of contact in public notices, fact sheets, and on websites. In addition, the Navy/Marine Corps will consider:

- » Adding appropriate contact information to the Base's EMD and the Navy's ERP websites.
- » Printing handouts with ERP contact numbers and their areas of responsibility for distribution to local officials and use at public outreach events.

Timing Websites will be updated with current contact information as needed. Business cards may be distributed as appropriate and during public events, such as Earth Day.



Photo By Cpl. Charlie Clarkn

Update the Community Involvement Plan

Goal To describe how the Navy/Marine Corps will communicate with the public throughout the ERP process.

Current Activity A CIP is a written plan outlining how the Navy/Marine Corps will communicate with the public, elected officials, environmental groups, and other stakeholders throughout the ERP process, including methods for obtaining their input at appropriate decision-making points. The CIP is made available to the public in the information repository and the Administrative Record. It is updated approximately every five years.

Camp Lejeune's CIP was originally published in September 1990. This 2015 update involved new ways to reach the public for input (e.g., using a written questionnaire that could be submitted by email, distributing the questionnaire electronically, and distributing a short version of the questionnaire at the Base Exchanges), which resulted in many more respondents. The layout of this CIP also changed from a typical report format to a more user-friendly, graphic layout.

Plan This CIP will continue to be updated approximately every five years to reflect potential changes in community interests, concerns, and communication preferences. The Navy/Marine Corps will consider again use of a wide variety of ways to obtain community input and will continue to publish the CIP in a user-friendly, graphic format.

Timing The Camp Lejeune CIP will be updated approximately every five years. The next update is planned for 2020.

Provide Technical Assistance for Public Participation Information

Goal To enable the RAB to obtain technical assistance to help them better understand and provide input to the ERP.

In 1998, DoD established the Technical Assistance for Public Participation (TAPP) program to enable RABs to hire a qualified person to provide technical assistance.

The RAB can define a proposed TAPP project and prepare a TAPP request. NAVFAC will then prepare a Statement of Work and hire a qualified person. Funding is provided for up to \$25,000 per year or one percent of the total restoration cost, whichever is less, with a limit of \$100,000 total over the life of the program at any one facility.

Current Activities The TAPP is available as requested by the RAB. The Navy has developed presentation materials and information available on the TAPP. The RAB may request TAPP presentations through the Base co-chair. To date, the Camp Lejeune RAB has not requested a presentation and has not identified any TAPP projects.

Plan Rather than waiting for the RAB to request a presentation, the Navy/Marine Corps will offer a TAPP presentation to the RAB.

Timing The Navy/Marine Corps will offer to make a TAPP presentation at a RAB meeting at least once every five years or as warranted by any significant or especially complex ERP activities.

Provide Technical Assistance Grant Information

Goal To provide resources for community groups to hire technical advisors who can assist them in interpreting technical information about the site.

Administered by USEPA, the Technical Assistance Grant (TAG) program assists a community group at an NPL site with obtaining professional assistance to interpret technical information about a site. USEPA has specific guidelines for groups that apply for and administer TAG grants, and the value can be up to \$50,000 for a single recipient.



Because Camp Lejeune is listed on the NPL, the RAB or another community group is eligible to apply for a TAG. After the RAB was established in 1995, USEPA representatives presented information about the TAG program to the RAB.

Current Activities A TAG is available as requested by community groups. The USEPA has developed presentation materials and information available on the TAG. The RAB may request additional TAG information from USEPA. To date, no group has applied for a TAG for Camp Lejeune.

Plan Rather than waiting for the RAB to request a presentation, the Navy/Marine Corps will ask USEPA to conduct a TAG presentation to the RAB periodically.

Timing The Navy/Marine Corps will ask USEPA representatives to make a TAG presentation to the RAB at least once every five years or as warranted by any significant or especially complex ERP activities.

Community Involvement Program Enhancements

In response to community feedback, the following additional community involvement activities are also being conducted by the Navy/Marine Corps or may be implemented to enhance the current community involvement program, and increase awareness of ERP activities, project successes, and resulting benefits to the local community.

Distribute Updates through Social Media and the Internet

Goal To increase awareness of ERP activities by distributing brief updates through email and social media.

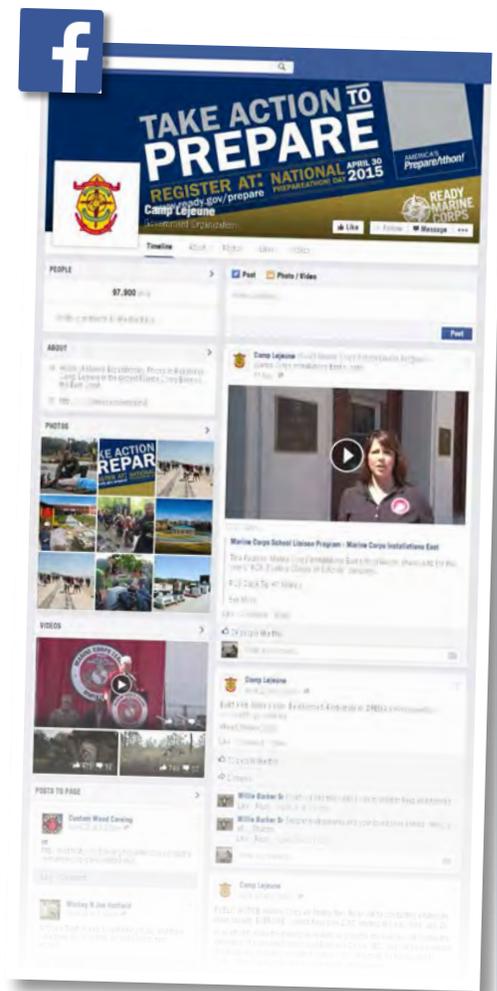
Current Activities

- » The Navy/Marine Corps sends reminders of RAB meetings to its members by email.
- » The Navy/Marine Corps issued an “e-blast” and posted information on several Base-related Facebook pages to announce the interviews for this CIP update.

Plan The Navy/Marine Corps will continue to use email for RAB meeting reminders. In addition, the following activities may be implemented:

- » Increase use of the Base’s weekly “all-hands” email messages by periodically including an update on the ERP. These messages can also include an attachment, such as a fact sheet of general interest.
- » Distribute information through existing communication networks, such as: the Jacksonville-Onslow County Chamber of Commerce’s email list, the North Carolina Coastal Federation’s daily online news feed, and the City of Jacksonville and Onslow County public information networks.
- » Increase use of social media such as Facebook by posting updates on active Camp Lejeune Facebook pages and on pages maintained by local community and environmental groups.
- » Make short videos of the environmental sites (potentially while giving a tour to RAB members) and post them on “You Tube,” Facebook, and the EMD website.
- » Create a social media account (i.e., Facebook) for the Camp Lejeune ERP to provide current ERP information and announce upcoming meetings.

Timing Electronic updates such as e-blasts may be issued quarterly (before RAB meetings) or as necessary to help raise awareness of EMD’s ongoing activities. Other increased use of social media and the Internet will be implemented as appropriate and as opportunities arise.



Maintain and Update Websites

Goal To provide up-to-date information that can be accessed easily from anywhere with Internet access and to raise awareness of these websites.

Current Activities Information about the ERP is available at several websites:

Websites on the Environmental Restoration Program at Camp Lejeune	
Navy's ERP website (including the Administrative Record)	http://go.usa.gov/Dy5T
Camp Lejeune EMD	http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt.aspx
RAB website	http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/RestorationAdvisoryBoard.aspx
Camp Lejeune website for off-Base surface danger zones (munitions investigation)	http://www.lejeune.marines.mil/SDZ
USEPA information on Camp Lejeune	http://www.epa.gov/region4/superfund/sites/fedfacs/camplejnc.html
General information about USEPA and Superfund	http://www.epa.gov/superfund/

Plan The websites described above will continue to be maintained and updated. In addition, the Navy/Marine Corps will:

- » Include accurate and appropriate websites on all public notices, fact sheets, newsletters, email notices, and other public communications.
- » Ensure that all links and pages on Camp Lejeune websites are working properly and include accurate information.
- » Review and update keywords (meta tags) used by search engines to enable these websites to appear at the top of search results.

Timing Key words for search engines will be reviewed and website information will be updated and maintained on an as-needed basis. Forms of public communications will be reviewed and/or updated to include accurate website information on an activity or project-specific basis. Internal functions of the Navy's ERP website and Camp Lejeune's EMD websites will be reviewed and updated prior to publication of the next CIP.

Place Signs near Environmental Sites

Goal To provide immediate information near sites or activities that are visible to the public.

Current Activities The Navy/Marine Corps places warning signs along site boundaries where land use controls have been established to restrict access and protect public health. EMD has also occasionally placed signs or fact sheets such as:

- » Fact sheets attached to vapor intrusion monitoring devices.
- » Fish advisory signs at Henderson and Hickory Ponds. These signs contain QR codes that can be scanned with a smart phone to access more information.

Plan The Navy/Marine Corps will continue to place warning signs as needed and required to restrict access and/or protect public health. In addition, they will:

- » Evaluate opportunities to place signs near sites that are visible to the public, such as vapor intrusion monitoring or mitigation systems, field activities near buildings and other public areas, and land use controls, such as a fences.
- » Consider placing signs at all sites where remedial action is being taken to identify the area as a restoration project and to explain what is happening there.
- » Consider expanding use of QR codes on signs to access more information on the EMD website. QR codes enable the sign to be smaller and the information to be easily changed or updated.

Timing As appropriate.



Establish and Maintain Relations with Key Community Stakeholders

Goal To establish and maintain direct relationships with key community stakeholders, such as local officials and business leaders.

Current Activities

- » Occasional participation in the Government Affairs Committee meetings with local government officials
- » Occasional participation in the Jacksonville-Onslow Chamber of Commerce's Military Affairs Committee with local community business leaders

Plan EMD will continue to attend the Government Affairs Committee and Military Affairs Committee meetings as needed. It will also consider:

- » Requesting an opportunity to give an annual update on the status of the ERP.
- » Contacting environmental officials in local government to meet to discuss the ERP.

Timing EMD will continue to participate as needed and will consider annual briefings.

Participate in Local Festivals

Goal To reach a large local population and raise awareness of the ERP by participating in established local festivals.

Current Activities Camp Lejeune sponsors an annual Earth Day Exposition with information booths designed to educate Marines and their families about environmental issues. EMD sets up interactive displays highlighting their work on the ERP. The exposition is open to Base schools, military and dependents, RAB members, and DoD civilians.

Plan EMD will continue to participate in Camp Lejeune's annual Earth Day Exposition. In addition, Camp Lejeune will consider setting up its ERP display at other off-Base community festivals, such as Onslow County's annual Earth and Surf Fest, the Sneads Ferry Shrimp Festival, and the Swansboro Mullet Festival.

Timing EMD will continue to participate in the Earth Day Exposition annually and will consider participating in local festivals as requested or as needed.

Expand Media Relations

Goal To improve frequency and accuracy of coverage of the ERP through print and online media.

Current Activities

The Navy/Marine Corps currently posts paid public notices as required by the CERCLA process.

Plan The Navy/Marine Corps will continue to issue paid public notices as required. In addition, by working with the Camp Lejeune Public Affairs Office, EMD will consider expanding media relations to increase program awareness and "share good news" about the ERP (as recommended by interviewees), such as:

- » Issuing news releases the week before a RAB meeting, highlighting a topic on the RAB agenda, and announcing the date and time of the meeting.
- » Providing short articles to local community and environmental groups to publish through their existing communication networks.
- » Coordinating with freelance writers who publish blogs and write articles for environmental organizations and local publications.

Timing Consider expanding media relations, as appropriate, such as when there is program activity that would be of interest. Consider issuing news releases before quarterly RAB meetings.



Timing of Community Involvement Activities

The table below summarizes the general timing of the community involvement activities described in this CIP for Camp Lejeune.

SUMMARY OF COMMUNITY INVOLVEMENT ACTIVITIES BY TIMING

Activity	Quarterly	Annually	Once Every Five Years	As needed or as appropriate	As Required by CERCLA
Support the Restoration Advisory Board	■				■
Maintain and Update Mailing Lists	■			■	■
Publish Public Notices	■			■	■
Prepare and Distribute Fact Sheets				■	■
Hold Public Meetings				■	■
Provide Comment Periods					■
Prepare a Responsiveness Summary					■
Maintain the Information Repository and Administrative Record	■			■	■
Publicize Points of Contact		■		■	■
Update the Community Involvement Plan			■		■
Provide Technical Assistance for Public Participation Information			■	■	■
Provide Technical Assistance Grant Information			■	■	■
Distribute Updates through Social Media and the Internet	■			■	
Maintain and Update Websites				■	
Place Signs Near Environmental Sites				■	
Establish and Maintain Relations with Key Community Stakeholders		■		■	
Participate in Local Festivals		■		■	
Expand Media Relations	■			■	

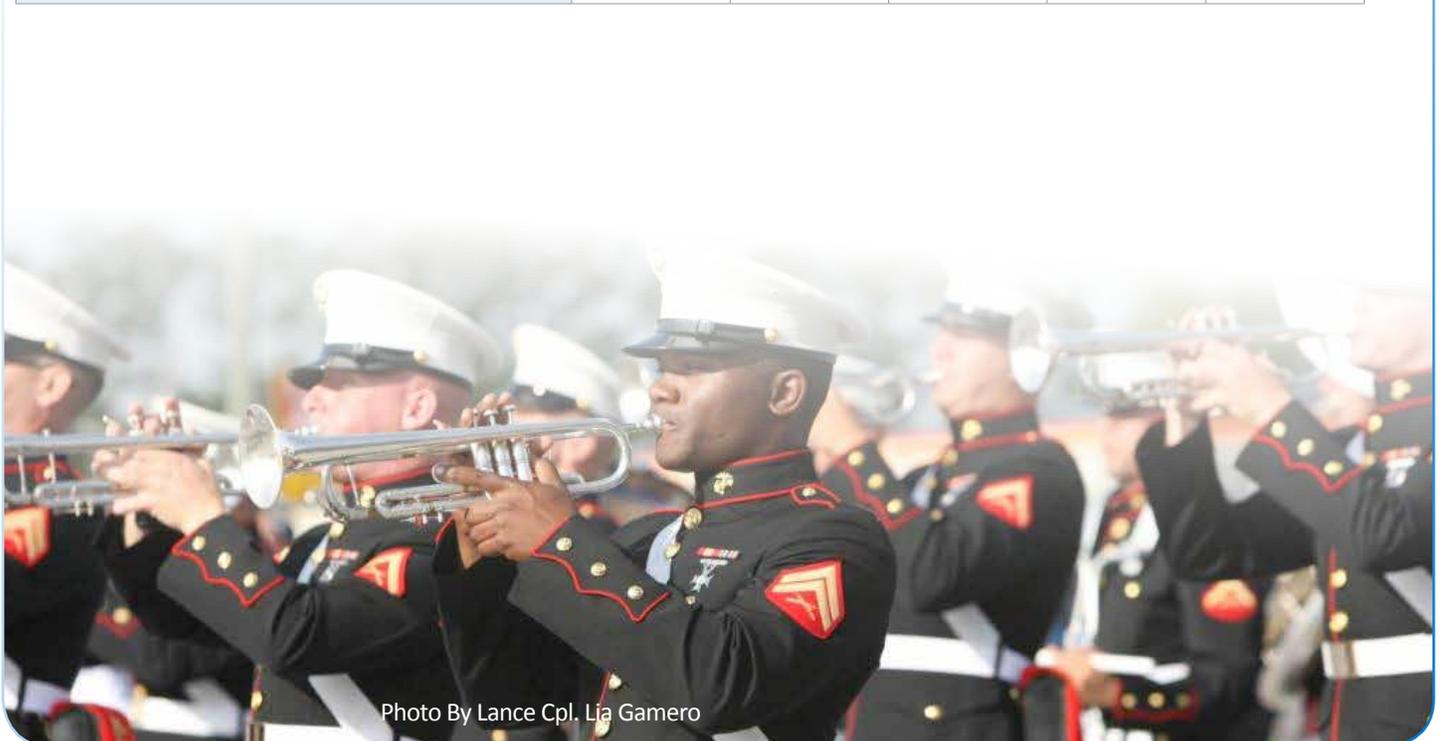
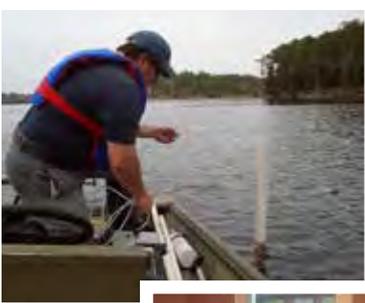


Photo By Lance Cpl. Lia Gamero



Prepared by



EN0305151023KCO

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Appendix A *Community Interviews*



Photo by Lance Cpl. Scott W. Whiting

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Appendix A *Long Questionnaire Form*



Community Questionnaire for the Environmental Restoration Program
 Marine Corps Base Camp Lejeune, North Carolina
 2015 Community Involvement Plan



We need your help! To update the Community Involvement Plan (CIP) for the Environmental Restoration Program at Camp Lejeune, we need to hear directly from local residents like you.

The Community Involvement Plan describes how Camp Lejeune communicates with the community about the environmental restoration (cleanup) program at the facility, and how Camp Lejeune will provide opportunities for the public to be involved.

This survey is an important tool for understanding the community’s concerns and information needs about the environmental cleanup program. Responses will be used to update the Community Involvement Plan. The plan will include a summary of all the responses, but ***your individual responses will be kept completely anonymous***. The Community Involvement Plan will be placed in the information repository for members of the community to review, if they wish.

If you would like more information about Camp Lejeune, or if you have any concerns about confidentiality, please contact the Base Public Affairs Division by telephone at 910-451-7440, by sending e-mail to cljn_globe_web@usmc.mil, or by sending regular mail to: Marine Corps Base, PSC Box 20005, Camp Lejeune, NC 28542-0005, ATTN: Public Affairs.

The personal information below is OPTIONAL, but is requested so that we can describe generally the types of people who provided input to the Community Involvement Plan (for example: 10 Jacksonville residents, five business owners, and so forth) and so we can add your name to a mailing list, if one is established.

At a minimum, please provide your zip code and check one or more of the boxes in the last row.

Name:		
Address:		Zip:
Organization (if any):		
Phone (W):		Phone (H):
E-mail:		
<i>(Check all that apply)</i>		
<input type="checkbox"/> local community resident	<input type="checkbox"/> local homeowners association	<input type="checkbox"/> public or elected official
<input type="checkbox"/> retired military	<input type="checkbox"/> business owner	<input type="checkbox"/> civic or environmental group
<input type="checkbox"/> work or live on Camp Lejeune (now or in the past)		

Please fax, scan/e-mail, or mail your responses before Dec 31, 2014, to:

CH2M HILL Camp Lejeune Team
 Attn: Amy Brand
 5701 Cleveland Street, Suite 200
 Virginia Beach, VA 23462

Email: MCBCAMLEJ.CIP@ch2m.com, Fax: 703-376-5969

THANK YOU for taking time to share your thoughts with us! Your participation is greatly appreciated.

1. How long have you lived in this community? < 1 year years
2. On a scale of 1 to 10, with 10 being the most concerned, how concerned do you think local community members are about the environment?
3. What do you think is the most serious environmental issue facing your community today?

4. Are you aware of any environmental or citizen/action groups that are especially active in the community? Yes No
(If yes) Who? How they can be contacted? _____
5. How far from Camp Lejeune do you live? (*circle one*)
 <2 miles 2-5 miles 5-10 miles >10 miles
6. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? Yes No
7. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program?
8. Do you think that Camp Lejeune, the North Carolina Department of Environmental and Natural Resources (NCDENR) and the U.S. Environmental Protection Agency (EPA) are viewed as credible, trustworthy sources of information about the environmental cleanup at Camp Lejeune? Yes No
9. Have you talked with any officials from the Base, EPA, or NCDENR about the environmental cleanup at Camp Lejeune? Yes No
If yes, which officials?

Were they responsive to your concerns or questions? Yes No
10. Do you feel the Base is fulfilling its role as a responsible neighbor regarding environmental cleanup? Yes No Don't Know
11. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune?
12. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?
 surface water groundwater air quality
 health issues munitions/related chemicals
 none other (please describe):

13. Do you feel that you are directly or indirectly affected by Camp Lejeune's (current) environmental sites and cleanup program? Yes No Don't know

If yes, in what way do you believe you are affected?

14. Have you participated in any public meetings about the environmental cleanup or munitions response at Camp Lejeune? Yes No

If yes, what was the topic (and/or date)?

15. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* Yes No

(If yes) have you attended any RAB meetings?

Yes No

(If yes) when? _____

Do you remember what was discussed?

**The RAB is a group of concerned community members who meet several times a year to receive updates about the environmental investigations and remedial actions and who provide feedback from the community's point of view. RAB meetings are always open to the public and are advertised in the "Jacksonville Daily News" and the "Camp Lejeune Globe." Minutes of RAB meetings are available on the Base website (see Question 18).*

16. (If yes to questions 14 or 15) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended?

Yes No

Do you have any suggestions for improving these meetings?

17. Have you ever visited the website for the Camp Lejeune environmental cleanup program?

<http://go.usa.gov/Dy5T>

Yes No Not aware

(If yes) Was the information available there useful to you?

Yes No

(If yes) Do you have any suggestions for improving it?

18. Have you ever visited the RAB website?

Yes No Not aware

<http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/RestorationAdvisoryBoard.aspx>

(If yes) Was the information available there useful to you?

Yes No

(If yes) Do you have any suggestions for improving it?

19. Have you ever visited the website for Off-Base Surface Danger Zones?

[\[http://www.lejeune.marines.mil/SDZ\]](http://www.lejeune.marines.mil/SDZ) Yes No Not aware

(If yes) Was the information available there useful to you? Yes No

(If yes) Do you have any suggestions for improving it?

20. The Base maintains a Public Information Repository at the Onslow County Library in Jacksonville where the public can review documents about the cleanup work at Camp Lejeune.

Did you know about or have you ever used the repository? Yes No Not aware

(If yes) Was the information available there useful to you? Yes No

21. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program? _____ Don't know

22. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? Yes No

If so, where?

newspaper notices fact sheet Camp Lejeune website

newspaper articles e-mail/phone inquiry Other (please describe):

(If yes to any) Do you have any suggestions for improving the information you receive?

23. What would be the best way to advertise public meetings, to catch your attention?

24. How do you receive information about local news and events?

(Check all that apply) Radio TV Newspaper Web
 Social Media (for example, Facebook) Other

Which specific newspaper, radio, TV stations, social media sites, or websites do you read or listen to?

25. How would you like to receive information about the cleanup work at Camp Lejeune?

(Check all that apply)

Newspaper notices Radio/TV Website
 Public meetings Mailing list E-mail list
 Not interested Other (please describe):

26. Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

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Appendix A

Written Questionnaire Responses



Community Questionnaire for the Environmental Restoration Program
 Marine Corps Base Camp Lejeune, North Carolina
 2015 Community Involvement Plan



We need your help! To update the Community Involvement Plan (CIP) for the Environmental Restoration Program at Camp Lejeune, we need to hear directly from local residents like you.

The Community Involvement Plan describes how Camp Lejeune communicates with the community about the environmental restoration (cleanup) program at the facility, and how Camp Lejeune will provide opportunities for the public to be involved.

This survey is an important tool for understanding the community's concerns and information needs about the environmental cleanup program. Responses will be used to update the Community Involvement Plan. The plan will include a summary of all the responses, but ***your individual responses will be kept completely anonymous***. The Community Involvement Plan will be placed in the information repository for members of the community to review, if they wish.

If you would like more information about Camp Lejeune, or if you have any concerns about confidentiality, please contact the Base Public Affairs Division by telephone at 910-451-7440, by sending e-mail to cljn_globe_web@usmc.mil, or by sending regular mail to: Marine Corps Base, PSC Box 20005, Camp Lejeune, NC 28542-0005, ATTN: Public Affairs.

The personal information below is OPTIONAL, but is requested so that we can describe generally the types of people who provided input to the Community Involvement Plan (for example: 10 Jacksonville residents, five business owners, and so forth) and so we can add your name to a mailing list, if one is established.

At a minimum, please provide your zip code and check one or more of the boxes in the last row.

Name:		
Address:		Zip:
Organization (if any):		
Phone (W):		Phone (H):
E-mail:		
<i>(Check all that apply)</i>		
<input checked="" type="checkbox"/> local community resident	<input type="checkbox"/> local homeowners association	<input type="checkbox"/> public or elected official
<input checked="" type="checkbox"/> retired military	<input type="checkbox"/> business owner	<input checked="" type="checkbox"/> civic or environmental group
<input checked="" type="checkbox"/> work or live on Camp Lejeune (now or in the past)		

Please fax, scan/e-mail, or mail your responses before Dec 31, 2014, to:

CH2M HILL Camp Lejeune Team
 Attn: Amy Brand
 5701 Cleveland Street, Suite 200
 Virginia Beach, VA 23462
 Email: MCBCAMLEJ.CIP@ch2m.com, Fax: 703-376-5969

THANK YOU for taking time to share your thoughts with us! Your participation is greatly appreciated.

1. How long have you lived in this community?

< 1 year 36, 15, 20, 30, 5, 30+, 15, 40, 27, 20, 15, 38, 63, 36, 20 years

Average: 26.6, Median: 26.3

2. On a scale of 1 to 10, with 10 being the most concerned, how concerned do you think local community members are about the environment? 5.5, 8, 5, 2, 6, 2, 7, 8, 4, 9, 3, 7, 6

Average: 5.6, Median: 5.5-6

3. What do you think is the most serious environmental issue facing your community today?

- **Water-related (stormwater, groundwater, surface water): 12**
- **Litter, recycling: 3**
- **Development/growth: 1**
- **Contamination: 1**
- **Health (work environment or drinking water): 2**
- **Global warming/climate change: 1**
- **Erosion: 1**
- **Air pollution: 1**

4. Are you aware of any environmental or citizen/action groups that are especially active in the community? 3 Yes 13 No

(If yes) Who? How they can be contacted? City of Jacksonville – various programs

5. How far from Camp Lejeune do you live? (*circle one*)

<2 miles 2-5 miles 5-10 miles >10 miles

6. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? 15 Yes 1 No

7. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program? 5, 5, 10, 8, 2, 5, 2, 6, 10, 10, 4, 8, 10, 4, 6, 7.5

Average: 6.4, Median: 6

8. Do you think that Camp Lejeune, the North Carolina Department of Environmental and Natural Resources (NCDENR) and the U.S. Environmental Protection Agency (EPA) are viewed as credible, trustworthy sources of information about the environmental cleanup at Camp Lejeune? 12 Yes 4 No

9. Have you talked with any officials from the Base, EPA, or NCDENR about the environmental cleanup at Camp Lejeune? 5 Yes 11 No

If yes, which officials?

Were they responsive to your concerns or questions? 3 Yes 1 No

10. Do you feel the Base is fulfilling its role as a responsible neighbor regarding environmental cleanup?

11 Yes 1 No 4 Don't Know

11. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune? 7.5, 10, 10, 9, 10, 8, 5, 10, 8, 10, 5, 8, 6, 10, 8, 10

Average: 8.4; Median: 8.5

12. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?

- surface water groundwater air quality
 health issues munitions/related chemicals
 none other (please describe):

- I'm an active member of the RAB and always concerned with (all of the above) issues

13. Do you feel that you are directly or indirectly affected by Camp Lejeune's (current) environmental sites and cleanup program? Yes No Don't know

If yes, in what way do you believe you are affected?

- The waterways on the base affect all of the community – both on base and surrounding the base (fishing, wildlife, recreation, etc.)
- I have a pulmonary issue which came about after I had worked for 5 years or so in building 1005.
- Lived on base for 9 years during water contamination period. My wife miscarried during that time, a child born there had development issues, and my wife has recently contracted breast cancer.
- I lived in TT2 on Bougainville drive during the late 70s and worked about MCB CLNC off and on since 1976. I have drunk the water in previous years at home and work. I am still skeptical about the purity of the water.
- Drank and swam in Camp Lejeune's water. (listed dates ranging from 1960 to present and covering 29 years)
- Spend a lot of timing hunting and fishing aboard CL. Unknowingly recreating in a haz mat area may pose future health concerns.
- Groundwater and pollutants
- Camp Lejeune's environmental sites play a role in my job at Camp Lejeune.

14. Have you participated in any public meetings about the environmental cleanup or munitions response at Camp Lejeune? Yes No

If yes, what was the topic (and/or date)?

- Not aware of any open to the public

15. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* Yes No
(If yes) Have you attended any RAB meetings? Yes No

(If yes) when? _____

Do you remember what was discussed?

- I'm an active member of the RAB and always concerned with (all of the above) issues

**The RAB is a group of concerned community members who meet several times a year to receive updates about the environmental investigations and remedial actions and who provide feedback from the community's point of view. RAB meetings are always open to the public and are advertised in the "Jacksonville Daily News" and the "Camp Lejeune Globe." Minutes of RAB meetings are available on the Base website (see Question 18).*

16. (If yes to questions 14 or 15) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended?

Yes No

Do you have any suggestions for improving these meetings?

- Partnership with City and County environmental committees

17. Have you ever visited the website for the Camp Lejeune environmental cleanup program?
[<http://go.usa.gov/Dy5T>] Yes No Not aware

(If yes) Was the information available there useful to you? Yes No

(If yes) Do you have any suggestions for improving it? Yes No

- Put some information on the website versus having the website keep looping back to the NAVFAC site to do it again.
- Communications

18. Have you ever visited the RAB website? Yes No Not aware

(<http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/RestorationAdvisoryBoard.aspx>)

(If yes) Was the information available there useful to you? Yes No

(If yes) Do you have any suggestions for improving it? Yes No

- Not aware until now. Communicating this to the public to attend or awareness after the meeting.

19. Have you ever visited the website for Off-Base Surface Danger Zones?

[<http://www.lejeune.marines.mil/SDZ>] Yes No Not aware

(If yes) Was the information available there useful to you? Yes No

(If yes) Do you have any suggestions for improving it? Yes No

20. The Base maintains a Public Information Repository at the Onslow County Library in Jacksonville where the public can review documents about the cleanup work at Camp Lejeune.

Did you know about or have you ever used the repository? Yes No Not aware

(If yes) Was the information available there useful to you? Yes No

21. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program? Yes Don't know

- Environmental Quality Board, EMD POC Charity Delaney (2)
- Camp Lejeune EMD Department
- Base EMD/Air Quality Supervisors

22. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? Yes No

If so, where?

newspaper notices fact sheet Camp Lejeune website

newspaper articles e-mail/phone inquiry Other (please describe):

- HQMC (2)
- water surveys
- mail
- training at Camp Lejeune

(If yes to any) Do you have any suggestions for improving the information you receive?

- Get the word out through various groups so they can help spread the word – Veterans groups, environmental groups, etc.
- Newsletter from Camp Lejeune

23. What would be the best way to advertise public meetings, to catch your attention?

- **Newspaper (6) – Local paper or the Globe**
- **Public info channel on TV**
- **TV**
- **Radio (3)**
- **Email**
- **Local news**
- **Web**
- **Mass emails throughout the installation**

24. How do you receive information about local news and events?

(Check all that apply) Radio TV Newspaper Web
 Social Media (for example, Facebook) Other

Which specific newspaper, radio, TV stations, social media sites, or websites do you read or listen to?

- **Globe**
- **Jacksonville Daily News (2)**
- **Channel G-10 on TV**
- **Fox News**
- **CNN**
- **107.1 FM**
- **107.9/106.5**
- **1240 AM**
- **JDNews (2)**
- **98.7 radio**
- **The Daily News (2)**
- **WCTI TV, Channel 14 (3)**
- **WITN TV**
- **CLNC Facebook page**
- **Pender Post**
- **NBC**
- **ABC**
- **CBS**
- **Local TV channels (2)**
- **TV channels 7, 9, 12**

25. How would you like to receive information about the cleanup work at Camp Lejeune?

(Check all that apply)

Newspaper notices Radio/TV Website
 Public meetings Mailing list E-mail list
___ Not interested ___ Other (please describe):

26. Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

- **Good job.**
- **Talk with concerned Veterans groups, OCCOVO, etc.**
- **Talk with local City/County officials and environmental groups**
- **Talk with local media to get higher visibility articles**
- **Better communication by using all available media.**
- **My opinion is that anything that may have been an issue affecting a person's health would be covered up or dismissed as not necessarily an issue tied to exposure to a toxic work environment. In the language used to identify cleanup, has not been verifiable to the common person. I will pursue the issue of being exposed to a toxic environmental through my doctors and submit the results to workmen's compensation board before I retire.**
- **The RAB and its membership is a very effective tool for the Base and Community. A RAB tri-fold might be beneficial for membership to share with other clubs/organizations within the community.**
- **Lobby our State government to ban the use of plastic bags**
- **Put a refundable deposit on all bottles and cans**
- **Partner with the folks in town to collect hazardous material in order to help clean up the Base and Onslow County together. Since they are so intertwined with each other as it was with ABC cleaners and our water wells. Each could share the cost together.**

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Appendix A *Personal Interview Responses*



Community Questionnaire for the Environmental Restoration Program
 Marine Corps Base Camp Lejeune, North Carolina
 2015 Community Involvement Plan



This written questionnaire form was used to guide personal interviews with community members. Sometimes the questionnaire was used extensively; however, at other times, the interview evolved naturally into a discussion. Therefore, many of the specific questions may not have been asked.

This document represents a compilation of the responses that were discussed in the interviews, including a long list of recommendations and comments that came out of the discussions.

Interviews were conducted with 34 people, who self-identified as follows

<i>(Check all that apply)</i>		
<input checked="" type="checkbox"/> 11 local community resident	<input checked="" type="checkbox"/> 1 local homeowners association	<input checked="" type="checkbox"/> 4 public or elected official
<input checked="" type="checkbox"/> 4 retired military	<input checked="" type="checkbox"/> 4 business representative	<input checked="" type="checkbox"/> 4 civic or environmental group
<input checked="" type="checkbox"/> 8 work or live on Camp Lejeune (now or in the past)		<input checked="" type="checkbox"/> 1 other nonprofit

Note that there is overlap as some people fit more than one category.

1. How long have you lived in this community?

.5, 11.5, 3, 27, 40, 27, 35, 14, 28, 57, 1.5, 70, 25 years

Average: 26.1, Median: 27

2. On a scale of 1 to 10, with 10 being the most concerned, how concerned do you think local community members are about the environment? 8, 7, 8.5, 7, 5, 7, 7, 6, 5, 6, 8.5, 3, 5

Average: 6.4, Median: 7

- “Some are a 13, some couldn’t care less”
- 25% of people are very interested (students and retirees are the most interested)

3. What do you think is the most serious environmental issue facing your community today?

- The “unknown”– what don’t we know about now that will be a huge issue here in 20 years?
- Definitely water quality! (9) – New River is “impaired.” Sedimentation, agricultural waste, development impacts, mercury in fish, multiple discharge sources, limited enforcement, need for regional water quality coordination, etc.
- Stormwater runoff (4)
- Groundwater issues (3) – all share the Castle/Hayne aquifer – important that we share information about anything that could impair groundwater quality or quantity
- Some limited air quality impacts
- Impact on wildlife (through water quality)
- Wetlands
- Coastal/land management (2)
- Land preservation – protecting watersheds

4. Are you aware of any environmental or citizen/action groups that are especially active in the community? 5 Yes 1 No

(If yes) Who? How they can be contacted?

- Coastal Federation
- Keep Onslow Beautiful
- White Oak New Riverkeeper Alliance (2)
- Carteret County Wildlife Club
- Coastal Land Trust
- Sierra Club (new chapter in Carteret)
- New River Foundation

5. How far from Camp Lejeune do you live? (circle one)

<2 miles 2 2-5 miles 2 5-10 miles 6 >10 miles

6. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? 19 Yes 1 No

- But only aware after (base employee) asked someone else about it
- First learned about the dry cleaner when (interviewee) first moved there. Then found out about Base environmental sites.
- (City) – aware but not regularly informed – don’t need info about all sites, only those that could affect the off-Base community
- Heard about it on Base training – told us you’re fine as long as you’re not digging
- See the signs about hazardous waste, but don’t really know much about it. A little scary. (2) would like to know what the potential hazards are.

7. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program? 5.5, 1, 7, 6.5, 6, 7, 7, 5, 6, 10, 3, 2 Average: 5.5, Median: 6

- People who had business on base during potential drinking water exposure are interested – others not as much
- People know it's going on but don't tend to be concerned
- People are concerned about the environment in general – but if you ask them if they discuss it or think about it a lot, they would probably say "no"
- Most people aren't even aware of it

8. Do you think that Camp Lejeune, the North Carolina Department of Environmental and Natural Resources (NCDENR) and the U.S. Environmental Protection Agency (EPA) are viewed as credible, trustworthy sources of information about the environmental cleanup at Camp Lejeune? 5 Yes 6 No

- Camp Lejeune – yes, EPA and NCDENR – depends on the issue
- Camp Lejeune- yes, EPA – yes, NCDENR – not sure
- EMD and IH – yes, EPA and NCDENR – no.
- If EPA and NCDENR have been involved the past few years, it doesn't seem like they're making much of a difference.
- Wasn't aware that EPA and NCDENR are involved. Don't entirely trust them either, but reassuring to know there is oversight, that there are checks and balances. That helps.
- Doesn't matter who is involved if they're all working with bad data (interviewee does not trust the results of vapor intrusion monitoring)
- EMD and IH destroyed trust in the way they dealt with vapor intrusion – different people were saying different things (one saying "you need to leave now" another saying "it's all fine, don't worry!"). Now they just don't know who to trust.
- IH – don't think they really care about health of employees (in buildings affected by vapor intrusion issues) – they say "trust us, everything is fine" but don't provide other information, and other organizations (EMD or Base Safety) say different things

9. Have you talked with any officials from the Base, EPA, or NCDENR about the environmental cleanup at Camp Lejeune? 3 Yes 4 No

If yes, which officials? Base EMD – have met them a couple times. Very helpful and responsive

Were they responsive to your concerns or questions? 3 Yes No

- Have dealt with them on other issues – groundwater plume in downtown area of Jacksonville

10. Do you feel the Base is fulfilling its role as a responsible neighbor regarding environmental cleanup? 8 Yes No 1 Don't Know

- Yes, but the general community is not aware of all they're doing

11. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune? 10, 10, 7, 10, 10, 10

Average: 9.5; Median: 10

- Because it affects future Marine Corps and government employees who go into affected areas

12. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?

5 surface water

7 groundwater

9 air quality

health issues munitions/related chemicals

none other (please describe):

- If it's leaking, it goes into the stormwater, then into the creeks and rivers, and then into the coastal waters
- Generally concerned but not "legitimate" concerns backed by knowledge
- Most people (in buildings on base) are more concerned about lead, asbestos, and cockroaches
- None – but probably more involved on the Base than the average person
- Sewer/community issues
- Onslow Bight Initiative – land conservation/urban encroachment issues – Camp Lejeune is very involved with this group

13. Do you feel that you are directly or indirectly affected by Camp Lejeune's (current) environmental sites and cleanup program? Yes No Don't know

If yes, in what way do you believe you are affected?

- Because I go on base all the time – slight chance of still being affected. Husband is retired but still works there.
- Avid fisherman – fish in those areas. Concerned about unexploded ordnance. Have seen signs and there is good notification about active exercises.
- Not affected, but impressed!
- Seepage into groundwater – dumping affects us, whether we realize it or not
- Potentially affected (health) by vapor intrusion/air quality issues. Can't prove health issues are caused by it but doctor thinks they probably are (1). (2) – no noticeable health effects now, but definitely concerned about long-term – how do they know?
- Runoff – everyone is affected by stormwater runoff because it all ends up in the waterways
- Use the base facilities regularly.
- Paddle these waters

14. Have you participated in any public meetings about the environmental cleanup or munitions response at Camp Lejeune? Yes No

If yes, what was the topic (and/or date)?

- MAC meeting
- long time ago – dealt with marking abandoned wells

15. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* Yes No

(If yes) Have you attended any RAB meetings? Yes No

(If yes) when? _____

Do you remember what was discussed?

- I am a RAB member (for the past two years)
- Remediation plans

**The RAB is a group of concerned community members who meet several times a year to receive updates about the environmental investigations and remedial actions and who provide feedback from the community's point of view. RAB meetings are always open to the public and are advertised in the "Jacksonville Daily News" and the "Camp Lejeune Globe." Minutes of RAB meetings are available on the Base website (see Question 18).*

16. (If yes to questions 14 or 15) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended?

Yes No

Do you have any suggestions for improving these meetings?

- **Need to do a better job publicizing meetings**

17. Have you ever visited the website for the Camp Lejeune environmental cleanup program?

[<http://go.usa.gov/Dy5T>]

4 Yes

7 No

6 Not aware

(If yes) Was the information available there useful to you?

Yes

2 No

(If yes) Do you have any suggestions for improving it?

1 Yes

No

- **Not previously aware but will go look at it now!**
- **Make it easier to navigate**
- **Check links (2)**
- **Make sure meta tags (Camp Lejeune environment, environmental, EMD) are set up to show up at the top of Google searches**
- **There is a great difference between “data” and “information.” We must be data-driven, but must produce useful information. Neither long data presentations nor simplistic sound bites get the job done. Need to build an information framework that links past actions with current and future actions...**
- **Generally aware of website, but don't visit it because it is too easy to get sucked in and then overwhelmed with too much – makes me worry more**

18. Have you ever visited the RAB website?

2 Yes

3 No

7 Not aware

(<http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/RestorationAdvisoryBoard.aspx>)

(If yes) Was the information available there useful to you?

1 Yes

1 No

(If yes) Do you have any suggestions for improving it?

Yes

No

19. Have you ever visited the website for Off-Base Surface Danger Zones?

[<http://www.lejeune.marines.mil/SDZ>]

Yes

5 No

5 Not aware

(If yes) Was the information available there useful to you?

Yes

No

(If yes) Do you have any suggestions for improving it?

Yes

No

- **Aware of similar issues and investigation at Cat Island (MCAS Cherry Point)**

20. The Base maintains a Public Information Repository at the Onslow County Library in Jacksonville where the public can review documents about the cleanup work at Camp Lejeune.

Did you know about or have you ever used the repository?

Yes

8 No

5 Not aware

(If yes) Was the information available there useful to you?

Yes

No

21. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program?

1 Don't know

- **Sergeant Major Allen, on the MAC Board, or ask at MAC meetings**
- **Charity Delaney (4) or EMD (2)**
- **Probably the County/Base liaison**
- **Website first, then probably a public information officer**
- **Joe Ramirez (2)**
- **Tim McCurry**
- **I would do an Internet search to find a point of contact**
- **John Townsend and through Onslow Bight group**
- **Marine Corps Community Service office and have them direct me**
- **Would ask my supervisor– trust that supervisor would know who to contact (3)**
- **Call Base Safety**

22. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? 3 Yes 7 No

If so, where?

2 newspaper notices 1 fact sheet Camp Lejeune website

1 newspaper articles 1 e-mail/phone inquiry Other (please describe):

(If yes to any) Do you have any suggestions for improving the information you receive?

- Receive fact sheets and email updates, but they are difficult to understand. Need to make them much simpler for regular people
- Email updates on vapor intrusion all say the same thing – no detections – and then have a bunch of data attached that we don't understand. (3)
- Don't read the *Globe* or *Jacksonville Daily News*, so not likely to see a public notice – have an email list or advertise in Base's weekly e-Blast
- Get information (about vapor intrusion) but don't understand much of it, and don't trust it

23. What would be the best way to advertise public meetings, to catch your attention?

- Add Facebook (3), Twitter, and G10
- Newspaper or radio advertisements
- Newspaper articles (more effective than newspaper ads)
- Emails, especially weekly E-blasts on base (5)
- Daily news story on NC Coastal Federation website
- You can publicize them more, but not sure you'd get more people... people just don't tend to go to meetings.

24. How do you receive information about local news and events?

(Check all that apply) 2 Radio 4 TV 2 Newspaper 2 Web
 2 Social Media (for example, Facebook) 1 Other – Mass emails on Base

Which specific newspaper, radio, TV stations, social media sites, or websites do you read or listen to?

- Facebook
- Sunshine email list (from the County)
- Radio – 1140 AM, 107.1 FM
- TV – Fox News
- Jacksonville Daily News (2)
- Jacksonville Daily News - ONLINE
- Channel G-10 on TV (2)
- NPR radio (New Bern and Wilmington) (2)
- Coastal Federation website
- Carteret County Tideland News

25. How would you like to receive information about the cleanup work at Camp Lejeune?

(Check all that apply)

1 Newspaper notices 4 Radio/TV 1 Website
 Public meetings Mailing list 3 E-mail list
 Not interested 1 Other (please describe):

- Text (especially if there's any emergency event)
- Through the NC Coastal Federation
- Put stories on NPR (Wilmington and New Bern) also on 89.3 radio (basic news)
- Definitely get info out via Social Media – Facebook and online news

26. Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

- Two things drive this economy: (1) the Marine Corps, (2) tourism (focused on the Marine Corps and/or the environment) – therefore, the Marine Corps and the environment are very important to this area

- No, they're doing the best they can. If people are unaware, it's because they're not paying attention.
- Cooperative Planning Group is EXCELLENT; coordination between Base and local government – the model for other base/community groups (3)
- Public doesn't tend to hear much about it anymore
- Everything that can be done is being done
- Amazed at communication – Base Commander called a special MAC meeting to tell them about the helicopter work for the munitions (off-base SDZs investigation) – and kept them informed throughout that process
- Drinking water issue was one of the few credibility issues the Base has ever had – they don't want any more credibility issues! They take care of their Marines.
- Husband gets an email about the status every 3 weeks
- People (in that building) are not concerned about canisters for measuring air quality – people just assume they're checking for mold and asbestos
- Older guys (who work on base) know about the drinking water issue, but there's a disconnect with the younger generation
- In the military, buildings are so old anyway – people just assume there are problems.
- County and Base have a very good relationship
- Interviewee once did research on Camp Lejeune – it was once the biggest contributor to environmental problems in the area, but is now the biggest promoter of environmental issues and conservation
- Need to advertise Household Hazardous Waste program – make it a community event, have the Scouts helping out
- I am pleased with current efforts and remain appalled at past policy and practices. Can only hope that the current projected concern is substantive and installed in the rank and file. The millions spent to compensate for past malpractice could be better used for direct mission support.
- The “normal” response when looking at a “normal” landscape is that everything is probably OK. But the things you cannot see (heavy metals, VOCs) can really get you. So my previous cancer could be related to 1965 visit to Camp Lejeune (or other military Superfund sites I've lived at). The trick is to make sure no one else has to deal with this question. So yes, we continue to restore environmental integrity, but we do so in the context of assure no new exposure as base areas are developed and missions are conducted.
- Trust has been destroyed (for several respondents in buildings affected by vapor intrusion) – handled it badly and not sure they can regain that trust.
- Think there are more problems on base but they can't afford to deal with it all at once – both the environmental cleanup costs and the cost of dealing with potential health issues. Therefore, think there are things they know about or suspect, but aren't saying or investigating right now.

Suggestions for communications

- Put website information in every email that is sent out
- Come off-Base to do auditorium-style presentations (e.g., at high school auditorium)
- Set up an environmental hotline and advertise that on Camp Lejeune, if there is a spill, you call this number (for reporting purposes, not punishment)
- MAC meetings are the best way to get information – if there is something pertinent they need to know, they hear about it at MAC meetings (2)
- CPG – Base/City of Jacksonville/Onslow County joint effort – working together for long-term protection of water – good way to get info out.
- Include information in hazard safety course or environmental training (2) – people who work on base have to go to those anyway.
- Would be interested in a fact sheet specific to the building in which the interviewee works (where there is a vapor intrusion mitigation system) – NOT a general fact sheet about everything
- Email

- Briefings to people working in the building (where there is a vapor intrusion mitigation system)
- Put a flyer or little sign right next to an air monitoring canister or VIMS system so that people can just read it – add a QR code that they can scan with their phone to get more information
- If there are problems (with air quality in a building) – just TELL US so that we can leave the building
- Social media (Facebook, Twitter, You Tube) with links to base website (9) – add You Tube videos of cleanup, and then post videos to Facebook – specifically Camp Lejeune Facebook page, online news spread through Facebook
- Make sure website has good “meta tags” so that they’ll be at the top of the page with a Google search
- NOT public meetings – no one goes to those!
- NOT posters or notices on bulletin boards – no one reads those
- NOT the newspapers or other print media (2) – people don’t read them anymore, one person mentioned perception of credibility as a problem
- Email and briefings are ok. Maybe one email, and then you can sign up if you want to receive future updates.
- County public affairs officer could help get information out – have various platforms for reaching the community on County issues. County would be happy to help get the word out.
- City and County communicate well with the public, have established networks, would be willing to help get the word out if there was a need.
- G10 TV channel
- Spread information through existing organizations – e.g., NC Coastal Federation news feed (reaches 10,000 members)
- Liaison with Sturgeon City – because it is an environmental center – they have connections to everyone else
- Contact the Rotary (on Rt. 7 in Onslow) – contact their president to get on their calendar for a briefing. President can send info to other rotaries.
- Reach out to Rotary Club (3) and other non-profits – volunteers tend to be doers. Do a presentation for them once a year.
- Post info in the Chamber news (3) – reach out to Chamber of Commerce – they are really the core of the community, do a presentation for them
- Be forthcoming – yew we’ve had problems, but look what we’re doing to fix it!
- Post information screens to advertise events at the entrances to the base. Also have them in town.
- Offer facility tours that people can sign up for through the Community College
- Provide a speaker to the Coastal Caucus – all the environmental groups come together, NCDENR, and local officials from municipalities
- NPR radio – Down East Journals – have different segments where they could fit something in
- Get a lot of emails about indoor air quality, but can’t understand them
- Just send the information out – tell them about the RAB, about the websites, etc.
- Include information in Base weekly email blasts, especially before a RAB meeting
- People who live, work, recreate along water ways are particularly interested in environmental issues, especially water quality – opportunities to engage them
- Good idea for EMD (Charity) to meet informally with City officials – not for an official briefing but periodic informal meetings to touch base
- Millions of dollars have been invested on environmental remediation – and people “don’t know squat” – need to get the word out! People need to know how that money is being used and invested in the future of Camp Lejeune.
- It’s not that people don’t care – it’s that they don’t KNOW (and they’re busy, so need to get info on their own schedule and timeline). Make the communication a STORY – here’s where we’ve been, yes, but here’s where we are now and how we’re moving forward in a clean, green, active way. There is a perception of “they’re the military, they’ll do what they want.” The reality is that how the military trains is completely different now than it used to be. Would like to see that be part of the story. It isn’t so much “restrictions” on their training, but more something to be proud of and part of how they go about their business now – they should be

PROUD they can train responsibly AND protect the environment.

- **The above would be a good “story” or series of articles for a local freelance environmental writer – Brad Rich, Trista Talton, Frank Teray. (Interviewee followed up by email with more information about these writers and links to some of their articles.)**
- **Participate in festival events – have a table and display there. Hammocks Beach State Park military appreciation day. Richland, Sneads Ferry Shrimp Festival, Swansboro Mollusk Festival, etc.**
- **Get involved in schools (environmental programs fit North Carolina 5th grade curriculum, potentially also 3rd grade) and then send home a follow-up parent newsletter. Already do an on-base Earth Day and schools come in – go to them!**

A

Appendix A *Short Questionnaire Form*

1. How long have you lived in this community? _____ < 1 year _____ years
2. How far from Camp Lejeune do you live? (*circle one*) <2 miles 2-5 miles 5-10 miles >10 miles
3. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? _____ Yes _____ No
4. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program? _____
5. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune? _____
6. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?
 - ____ surface water ____ groundwater ____ air quality
 - ____ health issues ____ munitions/related chemicals
 - ____ none ____ other (please describe):
7. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* _____ Yes _____ No (*If yes*) have you attended any RAB meetings? _____ Yes _____ No
 (*If yes*) when? _____
 Do you remember what was discussed?
 - a. (*If yes to question 7*) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended? ____ Yes ____ No
 - b. Do you have any suggestions for improving these meetings?
8. Have you ever visited the website for the Camp Lejeune environmental cleanup program?
<http://go.usa.gov/Dy5T> _____ Yes _____ No _____ Not aware
 (*If yes*) Was the information available there useful to you? _____ Yes _____ No
 (*If yes*) Do you have any suggestions for improving it?
9. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program?
 _____ _____ Don't know
10. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? _____ Yes _____ No
 If so, where?
 - ____ newspaper notices ____ fact sheet ____ Camp Lejeune website
 - ____ newspaper articles ____ e-mail/phone inquiry ____ Other (please describe):
11. What would be the best way to advertise public meetings, to catch your attention?
12. How would you like to receive information about the cleanup work at Camp Lejeune?
 (*Check all that apply*)
 - ____ Newspaper notices ____ Radio/TV ____ Website
 - ____ Public meetings ____ Mailing list ____ E-mail list ____ Not interested
 - ____ Other (please describe):
13. Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

A

Appendix A *Responses from MCAS Exchange*

1. How long have you lived in this community? < 1 year 3, 3, 10, 5, 7 years
Average: 4, Median: 3
2. How far from Camp Lejeune do you live? (circle one) <2 miles 2-5 miles 5-10 miles >10 miles
3. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? Yes No
 - Aware of drinking water issue and use filtered water.
4. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program? 6, 10, 3, 7, 5, 4, 6
Average: 5.8, Median: 6
5. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune? 7, 10, 7, 8, 7, 5, 7
Average: 6.6, Median: 7
6. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?
 surface water groundwater air quality
 health issues munitions/related chemicals
 none other (please describe): **drinking water**
7. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* Yes No (If yes) have you attended any RAB meetings? _____ Yes _____ No
 (If yes) when? _____
 Do you remember what was discussed?
 a. (If yes to question 7) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended? ___ Yes ___ No
 b. Do you have any suggestions for improving these meetings?
8. Have you ever visited the website for the Camp Lejeune environmental cleanup program? <http://go.usa.gov/Dy5T> _____ Yes No Not aware
 (If yes) Was the information available there useful to you? _____ Yes _____ No
 (If yes) Do you have any suggestions for improving it?
9. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program? Google 2 5 Don't know
10. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? Yes No
 If so, where?
 ___ newspaper notices ___ fact sheet ___ Camp Lejeune website
 ___ newspaper articles ___ e-mail/phone inquiry ___ Other (please describe):
11. What would be the best way to advertise public meetings, to catch your attention?
 - Local news/radio (2)
 - Email (2)
 - Facebook (2)

12. How would you like to receive information about the cleanup work at Camp Lejeune?

(Check all that apply)

- Newspaper notices Radio/TV Website
 Public meetings Mailing list E-mail list Not interested
 Other (please describe): **develop an app**

13. Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

(none)

A

Appendix A *Responses from Base Exchange*

1. How long have you lived in this community? < 1 year
 years
Average: 6.1, Median: 3
2. How far from Camp Lejeune do you live? (circle one) <2 miles 2-5 miles 5-10 miles >10 miles
3. Were you aware that Camp Lejeune is conducting environmental investigations and cleanup of hazardous waste and inactive munitions sites? Yes No
4. On a scale of 1 to 10 (with 1 being not at all interested and 10 being very interested) do you think the community is interested in the Camp Lejeune cleanup program?

Average: 5.8, Median: 6
5. On a scale of 1 to 10 (with 1 being not at all concerned and 10 being the most concerned) how concerned are you about the environmental cleanup program at Camp Lejeune?

Average: 7.2, Median: 7.5
6. Do you have any specific questions or concerns about environmental or munitions sites at Camp Lejeune?
 surface water groundwater air quality
 health issues munitions/related chemicals
 none other (please describe): **mercury in water**
7. Are you aware of Camp Lejeune's Restoration Advisory Board (RAB)?* Yes No (If yes) have you attended any RAB meetings? Yes No
 (If yes) when? _____
 Do you remember what was discussed? **Water, personal health**
- a. (If yes to question 7) Do you feel the information concerning the environmental cleanup program was presented effectively to the public at the RAB or public meetings you have attended? ___ Yes No
- b. Do you have any suggestions for improving these meetings? **Higher-ups need to tell the truth**
8. Have you ever visited the website for the Camp Lejeune environmental cleanup program?
<http://go.usa.gov/Dy5T> Yes No Not aware
 (If yes) Was the information available there useful to you? Yes _____ No
 (If yes) Do you have any suggestions for improving it?
9. Who would you contact if you wanted to know more about Camp Lejeune's environmental cleanup program?
 Don't know
- **Look it up online (2)**
 - **Environmental Management Division (4)**
 - **Range Control**
 - **The RAB**
 - **Base Command**
 - **Family Service Center**
 - **EPA**
 - **MCB safety**
 - **USA gov**

10. Have you ever seen or received public notices or other information about the Camp Lejeune environmental cleanup or munitions response programs? Yes No

If so, where?

newspaper notices

fact sheet

Camp Lejeune website

newspaper articles

e-mail/phone inquiry

Other (please describe): **TV**

11. What would be the best way to advertise public meetings, to catch your attention?

- **Newspaper (4)**
- **Camp Lejeune website (3)**
- **Local news/radio (13)**
- **All-hands email (7)**
- **Social media/Facebook (4)**
- **Got to work sections**
- **Through Commands (4)**
- **Tell people the areas they live in are undergoing investigation**
- **Yard sale**
- **MCX**
- **Billboard (4)**
- **Classes**
- **Letters to houses**

12. How would you like to receive information about the cleanup work at Camp Lejeune?

(Check all that apply)

Newspaper notices

Radio/TV

Website

Public meetings

Mailing list

E-mail list

Not interested

Other (please describe):

- **At work in a class**
- **Through Commands (2)**
- **Safety stand-down**
- **The way you are doing this survey**

Do you have any other comments or suggestions about Camp Lejeune's environmental cleanup or munitions response programs?

- **Would like info on the Lejeune water registration; my father, sister, and brother were here during that time.**
- **I will just wait to find out more information**
- **I'm stationed @ MCAS New River but I come to Camp Lejeune once a week**
- **Posters**
- **Hopefully it works**
- **A brief explanation on what is going on as in what these investigations do in detail.**
- **Lejeune has been polluting this area for a long time prior to clean up. I'm glad they have area designated a waste site. It takes time to clean up.**
- **Need bigger fines.**
- **Perhaps when marines check into Lejeune, they can be offered the opportunity to sign up to receive updates about your group through the housing office on JRC**

B

Appendix B *Key Community Contacts*



Restoration Advisory Board Members
 Community Involvement Plan Update
 Camp Lejeune

Restoration Advisory Board Members			
Name	Position	Phone Number	Email Address
Ms. Charity Delaney	Base Co-Chair	910-451-9385	charity.delaney@usmc.mil
Mr. Michael Curtis	Community Co-Chair	Personal contact information is not provided for private citizens.	
Ms. Laura Bader	Community Representative		
Mr. Richard D. Mullins	Community Representative		
Mr. Jerome M. Ensminger	Community Representative		
Mr. Thomas R. Mattison	Community Representative		
Ms. Amy Poe	Community Representative		
Ms. Cynthia Rester	Community Representative		
Mr. Dale Weston	Community Representative		
Ms. Karen Sota	Community Representative		
COL Steven Thompson USMC (Ret)	Community Representative		
Mr. Brian Wheat	Community Representative		
Ms. Amanda Todd	Community Representative		
Mr. Thomas Richard	Base Representative		
Mr. Bryan Beck	NAVFAC Representative	757-341-0327	bryan.k.beck@navy.mil
Mr. Dave Cleland	NAVFAC Representative	757-341-0329	david.t.cleland@navy.mil
Ms. Gena Townsend	EPA Representative	404-562-8538	townsend.gena@epa.gov
Mr. Randy McElveen	NCDEQ Representative	919-707-8341	randy.mcelveen@ncdenr.gov

Notes:

EPA - Environmental Protection Agency
 NAVFAC - Naval Facilities Engineering Command
 NCDEQ - North Carolina Department of Environmental Quality
 USMC - United States Marine Corps

Table D-2
 Key Community Contacts
 Community Involvement Plan Update
 MCIEAST-MCB CAMLEJ

U.S. Navy			
Organization/ Department	Name	Address	Phone/Fax/E-mail
NAVFAC Mid-Atlantic	Mr. Bryan Beck	NAVFAC MID-ATLANTIC Marine Corps IPT, Code OPQE3 9324 Virginia Avenue Norfolk, VA 23511-3095	Phone: (757) 341-0327 bryan.k.beck@navy.mil
NAVFAC Mid-Atlantic	Mr. Dave Cleland	NAVFAC MID-ATLANTIC Marine Corps IPT, Code OPQE3 9324 Virginia Avenue Norfolk, VA 23511-3095	Phone: (757) 341-0329 david.t.cleland@navy.mil
NAVFAC Mid-Atlantic	Public Affairs Office Mr. Tom Kreidel	Public Affairs Office NAVFAC Mid-Atlantic 9742 Maryland Avenue Norfolk, VA 23511	Phone: (757) 341-1410 thomas.kreidel@navy.mil
Marine Corps Base Camp Lejeune			
Organization/ Department	Name	Address	Phone/Fax/E-mail
EMD/EQB	Ms. Charity Delaney	MCIEAST-MCB CAMLEJ G-F/EMD/EQB Attn: Charity Delaney 12 Post Lane Camp Lejeune, NC 28547-2540	Phone: (910) 451-9385 charity.delaney@usmc.mil
EMD/EQB	Mr. Bob Lowder	MCIEAST-MCB CAMLEJ G-F/EMD/EQB Attn: Bob Lowder 12 Post Lane Camp Lejeune, NC 28547-2540	Phone: (910) 451-9607 robert.a.lowder@usmc.mil
EMD/EQB	Mr. Thomas Richard	MCIEAST-MCB CAMLEJ G-F/EMD/EQB Attn: Thomas Richard 12 Post Lane Camp Lejeune, NC 28547-2540	Phone: (910) 451-9641 thomas.richard@usmc.mil
Public Affairs Office	Mr. Nat Fahy	Commanding General Attn: Public Affairs / Mr. Nat Fahy 67 Virginia Dare Drive Camp Lejeune, NC 28547	Phone: (910) 451-7440
U.S. Environmental Protection Agency			
Organization/ Department	Name	Address	Phone/Fax/E-mail
USEPA	Ms. Jennifer Tufts	USEPA - Region 4 Atlanta Federal Center 61 Forsyth Street SW Atlanta, GA 30303	Phone: (404) 562-8513 tufts.jennifer@epa.gov
North Carolina Department of Environmental Quality			
Organization/ Department	Name	Address	Phone/Fax/E-mail
NCDEQ	Ms. Beth Hartzell	NCDEQ Attn: Beth Hartzell 1646 Mail Service Center Raleigh, NC 27699-1646	Phone: (919) 707-8335 beth.hartzell@ncdenr.gov
NCDEQ	Mr. Randy McElveen	NCDEQ Attn: Randy McElveen 1646 Mail Service Center Raleigh, NC 27699-1646	Phone: (919) 707-8341 randy.mcelveen@ncdenr.gov
NCDEQ	Ms. Martha Morgan	NCDEQ Attn: Marti Morgan 1646 Mail Service Center Raleigh, NC 27699-1646	Phone: (919) 707-8342 martha.morgan@ncdenr.gov
Federal and State Elected Officials			
Organization/ Department	Name	Address	Phone/Fax/E-mail
North Carolina House of Representatives	George G. Cleveland	N.C. House of Representatives 300 N. Salisbury St., Room 417A Raleigh, NC 27603-5925	Phone: (919) 715-6707 George.Cleveland@ncleg.net
Governor of North Carolina	Governor Pat McCrory	Office of the Governor 20301 Mail Service Center Raleigh, NC 27699	Phone: (919) 814-2000 Fax: (919) 733-2120
North Carolina Senate	Senator Harry Brown	Senate District #6 300 N. Salisbury St., Room 300-B Raleigh, NC 27603-5925	Phone: (919) 715-3034 Harry.Brown@ncleg.net

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 Community Involvement Plan Update
 MCI/EAST-MCB CAMLEJ

City of Jacksonville			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Sammy Phillips	P.O. Box 128 815 New Bridge St. Jacksonville, NC 28540	mayor@ci.jacksonville.nc.us
City Manager	Dr. Richard Woodruff	P.O. Box 128 815 New Bridge St. Jacksonville, NC 28540	Phone: (910) 938-5221 citymanager@ci.jacksonville.nc.us
City Clerk	Ms. Carmen J. Miracle	P.O. Box 128 815 New Bridge St. Jacksonville, NC 28540	Phone: (910) 938-5224 cmiracle@ci.jacksonville.nc.us
Onslow County Commissioner	Mr. W.C. Jarman	Board of Commissioners 234 NW Corridor Blvd. Jacksonville, NC 28540	Phone: (910) 347-4717 Jarman@onslowcountync.gov
Onslow County Commissioner	Mr. Jack Bright		Phone: (910) 347-4717 Bright@onslowcountync.gov
Onslow County Commissioner	Mr. Paul Buchanan		Phone: (910) 347-4717 Buchanan@onslowcountync.gov
Onslow County Commissioner	Ms. Barbara Ikner		Phone: (910) 347-4717 Ikner@onslowcountync.gov
Onslow County Commissioner	Ms. Million Heir-Williams		Phone: (910) 347-4717 williams@onslowcountync.gov
Onslow County Parks & Recreation	Mr. Rick Perry		1244 Onslow Pines Rd. Jacksonville, NC 28540
Onslow County Tourism		1099 Gum Branch Rd. Jacksonville, NC 28540	Phone: (910) 347-3141
Onslow County Public Library		58 Doris Ave. East Jacksonville, NC 28540	Phone: (910) 455-7350 library@onslowcountync.gov
Town of Cedar Point			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Buddy Guthrie	427 Sherwood Ave. Cedar Point, NC 28584	soundfurniture1@gmail.com
Commissioner	Mr. Sam Meadows		sam.meadows56@yahoo.com
Commissioner	Mr. Scott Hatsell		Phone: (910) 358-9200 shatsell@yahoo.com
Commissioner	Mr. David Winberry		Phone: (252) 725-9717 winfarm@embarqmail.com
Commissioner	Mr. Bill Ennett		Phone: (252) 393-8123
Town Clerk	Ms. Jayne Beyer		jbeyer@cedarpointnc.org
Town Administrator	Mr. Christopher Seaberg		cdseaberg@cedarpointnc.org
Town of Cape Carteret			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. David M. Fowler	212 Star Hill Drive Cape Carteret, NC 28584	Phone: (252) 393-6100 tccfowler@bizec.rr.com
Mayor Pro-tem	Mr. Eddie Seegers	209 Neptune Court Cape Carteret, NC 28584	Phone: (252) 393-7320 tccseegers@bizec.rr.com
Commissioner	Ms. Doreen Saunders	120 Sutton Drive Cape Carteret, NC 28584	Phone: (252) 393-3834 tccsaunders@bizec.rr.com
Commissioner	Mr. Richard Hunt	315 Yaupon Drive Cape Carteret, NC 28584	Phone: (252) 393-8032 raisedbeds10@gmail.com
Commissioner	Ms. Minnie Truax	308 LeJeune Road Cape Carteret, NC 28584	Phone: (252) 393-6169 tcctrux@bizec.rr.com
Commissioner	Mr. George Phillips	410 Neptune Drive Cape Carteret, NC 28584	Phone: (252) 241-7135 tccphillips@bizec.rr.com
Town Clerk	Ms. Karen Zornes	102 Dolphin St. Cape Carteret, NC 28584	

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Town of Emerald Isle			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Eddie Barber	7500 Emerald Drive Emerald Isle, NC 28594	Phone: (252) 354-3424 ebarber@emeraldisle-nc.org
Mayor Pro-tem	Mr. Floyd Messer, Jr		Phone: (252) 354-3342 FMESSER@ec.rr.com
Town Manager	Mr. Frank Rush		frush@emeraldisle-nc.org
Commissioner	Ms. Maripat Wright		Phone: (252) 354-3611 maripatw1@yahoo.com
Commissioner	Mr. John Wootten		Phone: (252) 354-2601 jwootten@earthlink.net
Commissioner	Mr. Tom Hoover, Jr.		Phone: (252) 354-5329 trhoover@ec.rr.com
Commissioner	Mr. Jim Normile		Phone: (910) 290-0835 jimnormile@coastalnet.com
Town Clerk	Ms. Rhonda Ferebee		Phone: (910) 354-3424 rferebee@emeraldisle-nc.org
Town of Newport			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Dennis Barber	P. O. Box 1968 Newport, NC 28570	Phone: (252) 223-4749 mayorbarber@townofnewport.com
Mayor Pro-tem	Mr. Ken Davis		kdavis83@ec.rr.com
Town Manager	Ms. Angela Christian		achristian@townofnewport.com
Councilor	Mr. Mark Eadie		meadie@townofnewport.com
Councilor	Mr. David Heath		dheath@townofnewport.com
Councilor	Mr. Jim McCoy		jmccoy@townofnewport.com
Councilor	Mr. Chuck Shinn		cshinn@townofnewport.com
Town Clerk	Ms. Maryellen Brown		mbrown@townofnewport.com
Town of Swansboro			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Scott Chadwick	101 Oyster Bay Road Swansboro, NC 28584	Phone: (252) 241-7841 schadwick@ci.swansboro.nc.us
Town Clerk	Ms. Paula Webb	601 Corbett Avenue Swansboro, NC 28584	Phone: (910) 326-4428 pwebb@ci.swansboro.nc.us
Town Manager	Mr. David Harvell		Phone: (910) 326-4428 dhavell@ci.swansboro.nc.us
Commissioner	Mr. Jim Allen		jallen@ci.swansboro.nc.us
Commissioner	Ms. Pat Turner		pturner@ci.swansboro.nc.us
Commissioner	Mr. John Lister		jlistner@ci.swansboro.nc.us
Commissioner	Mr. Gery Boucher		gboucher@ci.swansboro.nc.us
Swansboro Branch Library		1460 West Corbett Ave. Swansboro, NC 28584	

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Town of Topsail Beach			
Organization/ Department	Name	Address	Phone/Fax/E-mail
Mayor	Mr. Howard Braxton		Phone: (910) 328-1031 braxtonhm@aol.com
Commissioner	Mr. Julian Bone	P.O. Box 3291 Topsail Beach, NC 28445	Phone: (910) 328-3226 juliancbone@aol.com
Commissioner	Ms. Linda Stipe	P.O. Box 3625 Topsail Beach, NC 28445	Phone: (910) 328-1150 tbclstipe@gmail.com
Commissioner	Mr. Morton Blanchard		Phone: (910) 284-0897 emb5151@earthlink.net
Commissioner	Mr. Larry Combs	P.O. Box 3674 Topsail Beach, NC 28445	Phone: (910) 328-2327 edwin.combs@charter.net
Commissioner	Mr. Tom Eggleston	P.O. Box 3564 Topsail Beach, NC 28445	Phone: (910) 620-9248 eggmane@gmail.com
Town Manager	Mr. Tim Holloman	820 S. Anderson Blvd Topsail Beach, NC 28445	townmanager@topsailbeach.org
Town Clerk	Ms. Christina Watkins	820 S. Anderson Blvd Topsail Beach, NC 28445	townclerk@topsailbeach.org
Town Clerk	Ms. Carin Z. Faulkner, MPA	2008 Loggerhead Ct. North Topsail Beach, NC 28460	carinf@north-topsail-beach.org
Town Manager	Mr. Stuart Turille	2008 Loggerhead Ct. North Topsail Beach, NC 28460	townmanager@north-topsail-beach.org
Community Organizations			
Organization/ Department	Name	Address	Phone/Fax/E-mail
NOAA	Ms. Michel L Gielazyn, Ph.D.		michel.gielazyn@noaa.gov
NOAA Center for Costal Fisheries & Habitat Research		101 Pivers Island Road Beaufort, NC 28516	Phone: (252) 728-3595 nccos.webmaster@noaa.gov
U.S. Fish and Wildlife Service	Mr. Pete Benjamin	PO Box 33726 Raleigh, NC 27636	Phone: (919) 856-4520
Division of Water Quality Administration	Ms. Susan Massengale	1617 Mail Service Center Raleigh, NC 27699-1617	Phone: (919) 707-9014 susan.massengale@ncdenr.gov
NC DENR Division of Costal Management	Mr. Braxton Davis	400 Commerce Ave. Morehead City, NC 28557	Phone: (252) 808-2808, ext. 202 Braxton.Davis@ncdenr.gov
NC Division of Marine Fisheries	Mr. Louis Daniel	3441 Arendell St Morehead City, NC 28557	Phone: (252) 726-7021
Hammocks Beach State Park	Mr. Paul Donnelly	1572 Hammocks Beach Road Swansboro, NC 28584	Phone: (910) 326-4881 hammocks.beach@ncparks.gov
North Carolina National Estuarine Research Reserve	Ms. Rebecca Ellin	101 Pivers Island Road Beaufort, NC 28516	Phone: (910) 665-9757 Rebecca.ellin@ncdenr.gov
North Carolina Natural Heritage Program		1601 Mail Service Center Raleigh, NC 27699-1601	
North Carolina Wildlife Resources Commission	Mr. Gordon Myers	1701 Mail Service Center Raleigh, NC 27699-1701	gordon.myers@ncwildlife.org
North Carolina Wildlife Resources Commission, Division of Wildlife Management	Mr. David Cobb	1722 Mail Service Center Raleigh, NC 27699-1722	Phone: (919) 707-0051 David.Cobb@ncwildlife.org
Carteret County Fisherman's Association	Mr. Buster Salter	PO Box 152 Atlantic, NC 28511	
North Carolina Costal Federation	Mr. Todd Miller	3609 Hwy 24 Ocean Newport, NC 28570	toddm@nccoast.org
NC Seafood Alliance	Mr. Kenneth Seigler	PO Box 193 Swansboro, NC 28584	brcrksfd@ec.rr.com
Chamber of Commerce, Greater Jacksonville-Onslow	Ms. Laurette Leagon	1099 Gum Branch Rd. Jacksonville, NC 28540	Phone: (910) 347-3141
Keep Onslow Beautiful	Ms. Lisa Grant	604 College St. Jacksonville, NC 28540	lisa_grant@onslowcountync.gov
New River Foundation	Ms. Betty Sanders-Seavey	P.O. Box 241 Jacksonville, NC 28541	newriverfoundation@embarqmail.com
Stewards of the White Oak River			http://www.waterwaystewards.us/wwwblog/contact-us/

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Community Organizations			
NCSU Center for Marine Science and Technology	Mr. David B. Eggleston		Phone: (919) 515-7840 eggleston@ncsu.edu
Duke University Marine Laboratory, Nicholas School of the Environment		Environment Hall 9 Circuit Drive Box 90328 Durham, NC 27708	webmanager@nicholas.duke.edu
North Carolina Beach, Inlet & Waterway Association	Mr. Harry Simmons	P.O Box 1317 Oak Island, NC 28465	contactus@ncbiwa.org
North Carolina Fisheries Association	Mr. Jerry Schill	P.O. Box 335 Bayboro, NC 28515-0335	jerryschill@ncfish.org
Friends of the Hammocks and Bear Island		P.O Box 1861 Swansboro, NC 28584	Friends@FHBI.org
North Carolina Maritime Museum	Mr. Joe Schwarzer	315 Front St. Beaufort, NC 28516	Phone: (252) 728-7317 joe.schwarzer@ncdcr.gov
Swansboro Chamber of Commerce	Ms. Donna Hammonds	203 W. Church St. Swansboro, NC 28584	Phone: (910) 326-1174 Donna@SwansboroChamber.org
Local Media			
Type	Name	Address	Phone/Website
Radio Station	WZNB 88.5 FM, Craven Community College	New Bern, NC 28561	http://www.publicradioeast.org/
Radio Station	WTEB 89.3 FM, Craven Community College	New Bern, NC 28561	http://www.wteb.org/
Radio Station	WOTJ 90.7 FM, Grace Christian School	Morehead City, NC 28557	http://www.fbnradio.com/
Radio Station	WBJD 91.5 FM, Craven Community College	Atlantic Beach, NC	
Radio Station	WAAE 91.9 FM, American Family Radio	New Bern, NC 28561	
Radio Station	WQSL 92.3 FM, The Wolf	Jacksonville, NC	http://www.wqsl.com/
Radio Station	WERO 93.3, Top 40	Washington, NC	
Radio Station	WNBU 94.1 FM, Talk	Oriental, NC	
Radio Station	WZKB 94.3 FM, Radio La Ponderosa	Wallace, NC	
Radio Station	WRNS 95.1 FM, YOUR Country	Kinston, NC	http://www.wrns.com/
Radio Station	WRHT 96.3 FM, Thunder Country	Morehead City, NC 28557	http://www.thundercountryonline.com/
Radio Station	WNBB 97.9 FM, Classic Country	Bayboro, NC	
Radio Station	WXNR 99.5, The X	Grifton, NC	http://995thex.com/
Radio Station	WLGP 100.3 FM, Good News	Harkers Island, NC	http://www.gnnradio.org/
Radio Station	WIKS 101.9 FM, Kiss 102 FM Music Power	New Bern, NC 28561	
Radio Station	WELS 102.9 FM, Classic Hits	Kinston, NC	
Radio Station	WMGV 103.3 FM, Carolina's Best Mix	Newport, NC 28570	http://www.v1033.com/
Radio Station	WBNE 103.7 FM, News/Talk	Wrightsville Beach, NC	
Radio Station	WZUP 104.7 FM	La Grange, NC	
Radio Station	WLVG 105.1 FM	Havelock, NC	
Radio Station	WXQR 105.5 FM, Carolina's Pure Rock	Jacksonville, NC	
Radio Station	WSFL 106.5 FM, Classic Rock 106.5	New Bern, NC 28561	http://www.wsfl.com/
Radio Station	WNCT 107.9 FM, Oldies 1079 - Motown, Soul, and Greatest Rock & Roll	Greenville, NC	
Radio Station	WMFD 630 AM, ESPN Radio - Wilmington's All Sports Station	Wilmington, NC	http://www.am630.net/
Radio Station	WEGG 710 AM	Rose Hill, NC	
Radio Station	WSRP 910 AM	Jacksonville, NC	

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Local Media			
Type	Name	Address	Phone/Website
Radio Station	WRNS 960 AM, YOUR Country	Kinston, NC	
Radio Station	WELS 1010 AM	Kinston, NC	
Radio Station	WSME 1120 AM	Camp Lejeune, NC	
Radio Station	WLNR 1230 AM	Kinston, NC	
Radio Station	WJNC 1240 AM, The Talk	Jacksonville, NC	http://www.wtkf107.com/
Radio Station	WJCV 1290 AM	Jacksonville, NC	
Radio Station	WANG 1330 AM	Havelock, NC	
Radio Station	WLSG 1340 AM	Wilmington, NC	
Radio Station	WNOS 1450 AM	New Bern, NC 28561	
Radio Station	WVBS 1470 AM	Burgaw, NC	
Radio Station	WWNB 1490 AM	New Bern, NC 28561	
Radio Station	WWIL 1490 AM	Wilmington, NC	
TV Station	Cable Channel G10 TV	Jacksonville City Hall 815 New Bridge St. Jacksonville, VC	http://www.ci.jacksonville.nc.us/Residents/Government-TV.aspx
TV Station	WCTI-TV	News Channel 12 225 Glenburnie Dr. New Bern, NC 28561	Phone: (252) 638-1212 Fax: (252) 637-4141 news@wcti12.com http://www.wcti12.com/index.html
TV Station	WITN-TV	275 East Arlington Boulevard Greenville, NC 27858	Phone: (252) 439-7777 www.witn.com/
TV Station	WNCT-TV (9 on your side)	3221 South Evans St. Greenville, NC 27834	Phone: (252) 355-8500 Fax: (252) 355-8568 newsdesk@wnct.com http://www2.wnct.com/
TV Station	UNC-TV	10 T.W. Alexander Dr. Research Triangle Park, NC 27709-4900	Phone: (910) 549-7000 viewer@unctv.org http://www.unctv.org/
TV Station	WFXI / WYDO	225 Glenburnie Dr. New Bern, NC 28561	Phone: (252) 638-1212 Fax: (252)636-6855 http://www.wcti12.com/foxeasterncarolina/index.html
TV Station	WSFX / FOX 26	322 Shipyard Boulevard Wilmington, NC 28412	Phone: (910) 343-8826 http://www.wsfx.com/Global/category.asp?C=77811
TV Station	WECT / New 6	322 Shipyard Boulevard Wilmington, NC 28412	Phone: (910) 791-8070 http://www.wect.com/
TV Station	WWAY / News Channel 3	615 N. Front St. Wilmington, NC 28401	Phone: (910) 762-8581 http://www.waytv3.com/
Newspaper	Jacksonville Daily News	724 Bell Fork Road P.O. Box 196 Jacksonville, NC 28546	Phone: (910) 353-1171 jdletters@jdnews.com http://www.jdnews.com
Newspaper	Tideland News	774 W. Corbett Ave. Swansboro, NC 28584	Phone: (910) 326-5066 tidelandnews@bizec.rr.com
Newspaper	The Wilmington Star-News	1003 South 17th St. Wilmington, NC 28402	Phone: (910) 343-2000 www.starnewsonline.com/
Newspaper	The Duplin Times	P.O. Box 69 Kenansville, NC 28349	Phone: (910) 296-0239 http://theduplintimes.com/index.html
Newspaper	The Globe	1122 Henderson Drive Jacksonville, NC 28540	Phone: (910) 672-7830 http://www.camplejeuneglobe.com/

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Appendix C

Example Public Notices and Fact Sheets



C

Appendix C *Public Notices*



**REQUEST FOR INPUT
Munitions Response Site Prioritization
Marine Corps Installations East-
Marine Corps Base Camp Lejeune
Jacksonville, North Carolina**



The Navy is seeking public input about setting priorities for responding to five munitions response sites at Marine Corps Installations East-Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ).

Preliminary assessments and site inspections are being completed at the five sites (UXO-22, 23, 24, 25, and 26). The prioritization scoring for these sites were developed in June 2012 based on currently available data. There are currently 26 munitions response sites at MCIEAST-MCB CAMLEJ.

For More Information: You are invited to attend the next Restoration Advisory Board (RAB) meeting, where the munitions response sites and prioritization will be discussed:

When: August 16, 2012, at 6:00 pm

Where: Coastal Carolina Community College, Business Technology Building, Room 102

Munitions response site documentation and prioritization scores are also available at the information repository and on the public website for MCIEAST-MCB CAMLEJ:

Onslow Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Public website: <http://go.usa.gov/jZi>

If you have questions about the munitions response program for MCIEAST-MCB CAMLEJ, please contact:

Naval Facilities Engineering Mid-Atlantic
Public Affairs Office
9742 Maryland Avenue
Norfolk, Virginia 23511-3095
Phone: (757) 445-8732 ext. 3096

To Submit Comments: Please send any written comments by September 16, 2012, to:

Mr. Dave Cleland
NAVFAC Mid-Atlantic
Code: OPQE
USMC NC IPT, EV Business Line
6506 Hampton Blvd
Norfolk, VA 23508
E-mail: david.t.cleland@navy.mil

PUBLIC NOTICE
Public Meeting and Restoration Advisory Board Meeting
Marine Corps Installations East – Marine Corps Base Camp Lejeune

You are invited to a public meeting followed by the Restoration Advisory Board (RAB) meeting on **August 16, 2012 at 6:00 PM** at the following location:

Coastal Carolina Community College
Business Technology Building, Room 102
444 Western Boulevard
Jacksonville, NC 28546

Public Meeting: The Department of the Navy is inviting public comment on the Proposed Remedial Action Plan (PRAP) for Operable Unit (OU) No. 14 Site 69, the Former Rifle Range Chemical Dump, and the Engineering Evaluation/Cost Analysis (EE/CA) for Site Unexploded Ordnance (UXO)-14, Former Indoor Pistol Range, both of which are located on Marine Corps Installations East - Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ).

The Site 69 PRAP presents the preferred alternatives for addressing the waste disposal area and groundwater contamination. The preferred alternative for Site 69 includes capping for the waste disposal area, monitored natural attenuation for groundwater, and land use controls. The UXO-14 EE/CA presents the alternatives identified to address lead and antimony in soil. The preferred alternative for UXO-14 is in situ stabilization with excavation and offsite disposal.

The PRAP and EE/CA are based upon the findings of previous investigations contained in the Administrative Record for MCIEAST-MCB CAMLEJ. The Administrative Record is available on the internet at <http://go.usa.gov/jZi>. Internet access and hard copies of the PRAP and the EE/CA are also available at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Public Comments: Please provide written comments on the PRAP and/or the EE/CA on or before (postmark by) September 16, 2012 to the following address:

Mr. Dave Cleland
NAVFAC Mid-Atlantic
USMC NC IPT, EV Business Line
6506 Hampton Blvd
Norfolk, VA 23508

RAB Meeting: The RAB meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to attend RAB meetings to learn more about the environmental cleanup process on the Base and to provide your input. If you would like to receive additional information about the RAB, please contact:

Ms. Charity Rychak
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910) 451-9385

PUBLIC NOTICE
Public Meeting and Restoration Advisory Board Meeting
Marine Corps Installations East – Marine Corps Base Camp Lejeune

You are invited to a public meeting followed by the Restoration Advisory Board (RAB) meeting on **February 21, 2013 at 6:00 PM** at the following location:

Coastal Carolina Community College
Business Technology Building, Room 102
444 Western Boulevard
Jacksonville, NC 28546

Public Meeting: The Department of the Navy is inviting public comment on the Proposed Remedial Action Plan (PRAP) for Operable Unit 23, Site 49 located on Marine Corps Installations East - Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ). In accordance with 40 CFR 300.430(f)(2), the PRAP identifies and discusses the preferred alternative for groundwater which includes monitored natural attenuation and land use controls.

The Site 49 PRAP is based upon the findings of previous investigations which are contained in the Administrative Record for MCIEAST-MCB CAMLEJ. The Administrative Record is available on the internet at <http://go.usa.gov/jzi>. Internet access and a hard copy of the PRAP are also available at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Public Comments: Please provide written comments on the PRAP on or before (postmark by) March 19, 2013 to the following address:

Mr. Dave Cleland
NAVFAC Mid-Atlantic
USMC NC IPT, EV Business Line
6506 Hampton Blvd
Norfolk, VA 23508

RAB Meeting: The RAB meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to attend RAB meetings to learn more about the environmental cleanup process on the Base and to provide your input. If you would like to receive additional information about the RAB, please contact:

Ms. Charity Rychak
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910) 451-9385



Photo by Sgt. Ned Johnson
Sgt. Brandon Wolfe, a motor transport mechanic with Police Advisor Team 4, talks to local children during a patrol to Checkpoint Doblex, Feb. 11. The Marines and sailors of PAT-4 have established relationships with the Afghan Uniformed Police and the local populace.

FORWARD OPERATING BASE ZEEBRUGGE, AFGHANISTAN

Marine mentors continue professional development

SGT. NED JOHNSON
Regimental Combat Team 7

Marines were patrolling and fighting alongside Afghan Uniformed Police for several years, but in Kajaki the Marines are focused on a different fight – staying out of the way.

Marines and sailors with Police Advisor Team 4 established relationships with the local AUP and are now in a strictly advisory role.

The team's role no longer includes training, according to Sgt. Michael Ellis, a military policeman with the team. Instead, the Afghan government took the lead on training its police officers,

to include advanced courses for non-commissioned officers and explosive hazards reductions.

"They know how to do everything, so we are moving from coaches and teachers to overseers. We say, 'You know how to fish, let's see you do it,'" Ellis said.

The team is designed to directly mimic the AUP's infrastructure. Each Marine officer has an Afghan counterpart who works in the same field such as supply, logistics or communications.

The commanding and executive officers of the team reflect the jobs of the District Chief of Police and the Assistant DCOP.

"(We) are advising their key staff members in their functional areas to coordinate their efforts with their higher headquarters," said 1st Lt. Chad Ernst,

fires officer and Joint Terminal Attack Controller with PAT-4. "We are trying to help them get the Afghan support they need in the correct format."

In years past, the Marines told the Afghan leaders how to best solve a problem. The test, however, is no longer open book.

"When we advise them, the biggest thing we try to do is get them to come up with an Afghan solution to the problem," said Ernst.

A few times a week, the team visits the Kajaki Police Headquarters and nearby Checkpoint Doblex.

"We finished a joint operation, and they have shifted some personnel around," said Ellis. "Doblex holds a tactical advantage because it is the only route (insurgents) use from Keneshe

Wan to bring in money, ammunition and supplies so they have to search those vehicles."

The AUP continue to improve in the Kajaki District, according to Ernst.

"The guys on the ground, the patrolmen, are great," Ernst said. "They are trained, dedicated and willing to do what is necessary to secure (Kajaki)."

The final step will be the AUP coordinating with local Afghan National Security Forces without the help of Marines, Ernst said.

"We want them to learn this is their district, so they should be coordinating with ANSF in the area," Ernst said. "We want to show them the Afghan National Civil Order Police and the Afghan National Army, and say 'They are doing it, you can too.'"

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Upcoming Field Investigation Investigation of Off-Base Surface Danger Zones (SDZs) Marine Corps Base Camp Lejeune

What: From March to June 2013, Marine Corps Base Camp Lejeune will be conducting an expanded intrusive investigation to further evaluate the presence or absence of munitions and explosives of concern in terrestrial or coastal wetland areas adjacent to the base's southeast boundary. This investigation is a continuation of the digital geophysical mapping conducted in 2009-2010, in which magnetic sensors mounted on low-flying helicopters (over water and wetlands) or carried by hand (on land) were used to detect metallic anomalies.

This "intrusive investigation" of selected anomalies identified during the 2009-2010 surveys will identify the types of metallic objects and potential hazards that are present in the former surface danger zones (SDZs). The investigation team will use hand-held magnetometers and metal detectors to locate the objects and will dig them up by hand.

Why: Marine Corps Base Camp Lejeune has been investigating areas adjacent to the Base's southeast boundary that might have been affected by past munitions training. The investigation is being conducted as a necessary precaution, because training could have resulted in some munitions debris in these areas. There has been no indication of a safety risk to the surrounding community, nor have there been any reports of munitions found.

In 2010, environmental and intrusive investigations were conducted at Bear Island. No environmental contamination or munitions or explosives of concern were discovered. Although some munitions-related debris was found and removed, there has been no indication that munitions or explosives of concern are present. Therefore, no additional work is planned at Bear Island.

For More Information: You can learn more about the SDZs investigation work online at:
www.lejeune.marines.mil/SDZ.aspx

The Administrative Record File (a complete record of documents that were used to make investigation and cleanup decisions) and other information about Camp Lejeune's Environmental Restoration and Munitions Response Programs is available online at:

<http://go.usa.gov/TWs>

Additional information is also available at the Onslow County Public Library in Jacksonville and at the Swansboro Branch Library. If you have questions about this investigation, please contact: Joe Ramirez at 910-451-7645 or Joe.m.ramirez@usmc.mil.

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PUBLIC NOTICE

Restoration Advisory Board Meeting Marine Corps Installations East – Marine Corps Base Camp Lejeune Environmental Cleanup Advisory Board Members Wanted

Marine Corps Base Camp Lejeune, North Carolina is soliciting volunteers to become community members of its Restoration Advisory Board (RAB). Any Onslow County or local citizen who is able to meet the requirements listed below is encouraged to participate and apply for membership. The RAB members serve a dual role: to review and comment on clean-up documents and to serve as liaisons between the RAB and the Camp Lejeune community. You do not need to have a technical background or any special knowledge to become a RAB community member. You do need to be a local resident and be willing to actively participate in the review of material that will affect the timing and direction of Base environmental clean-up activities.

RAB community member requirements:

- Members must be able to attend quarterly meetings and agree to have their names, addresses, and home telephone numbers provided to the community.
- Members who miss two or more consecutive meetings may be asked to resign.
- Duties and responsibilities will include reviewing and commenting on technical documents and activities associated with the environmental restoration of Marine Corps Base Camp Lejeune.

RAB community members will join representatives from the Navy, Marine Corps, Environmental Protection Agency, and the North Carolina Department of Environment and Natural Resources.

- The Restoration Advisory Board (RAB) meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to the next RAB meeting to learn more about the environmental cleanup process on the Base and to provide your input. The RAB meeting will be held on May 23, 2013 at 6:00 PM at the following location:

Coastal Carolina Community College
Business Technology Building, Room 105
444 Western Boulevard
Jacksonville, NC 28546

If you would like to receive additional information about the RAB, please contact:

Ms. Charity Rychak
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910) 451-9385

PUBLIC NOTICE

**Proposed Remedial Action Plan Operable Unit 20, Site 86 And Restoration Advisory Board Meeting
Marine Corps Installations East – Marine Corps Base Camp Lejeune**

**You are invited to a public meeting and the next Restoration Advisory Board (RAB) meeting on Wednesday
February 26, 2014 at 6:00 PM at the following location:**

**Coastal Carolina Community College
Business Technology Building, Room BT105
444 Western Boulevard
Jacksonville, NC 28546**

PUBLIC MEETING

The Department of the Navy (DoN) is inviting public comment on the Proposed Remedial Action Plan (PRAP) for Operable Unit 20, Site 86 located on Marine Corps Installations East – Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ). The PRAP identifies and discusses the preferred alternatives for groundwater remediation activities at Site 86.

In accordance with 40 CFR 300.430(f)(2), the assessment of potential risks to human health and the environment and the preferred alternative to address these risks is summarized in the PRAP. The preferred alternative for Site 86 is monitored natural attenuation and land use controls.

The PRAP is based upon the findings of previous site-related documents contained in the DoN's Administrative Record for MCIEAST-MCB CAMLEJ. The PRAP and other background documentation are available for public review in the Administrative Record and are located on the internet at <http://go.usa.gov/Dy5T>. The website and a hard copy version of the Site 86 PRAP are also available at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Please provide written comments on the Site 86 PRAP on or before (postmark by) March 14, 2014 to the following address:

Mr. Dave Cleland
NAVFAC Mid-Atlantic
USMC NC IPT, EV Business Line
6506 Hampton Blvd
Norfolk, VA 23508

Restoration Advisory Board Meeting

The RAB meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to the next RAB meeting to learn more about the environmental cleanup process on the Base and to provide your input. If you would like to receive additional information about the RAB, please contact:

Ms. Charity (Rychak) Delaney
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910) 451-9385

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PUBLIC NOTICE
RESTORATION ADVISORY BOARD MEETING
Marine Corps Installations East – Marine Corps Base Camp Lejeune

The Restoration Advisory Board (RAB) meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to the next RAB meeting to learn more about the environmental cleanup process on the Base and to provide your input. The RAB meeting will be held on **Wednesday November 12, 2014 at 6:00 PM** at the following location:

Coastal Carolina Community College
Business Technology Building, Room BT105
444 Western Boulevard
Jacksonville, NC 28546

If you would like to receive additional information about the RAB, please contact:

Ms. Charity Delaney
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910)451-9385

October 29, 2014 (adv)



Marine Corps Base Camp Lejeune

YOU Can Help the Environmental Restoration Program!

just by answering a few short questions...

What: During the week of December 1-5, representatives of contractor CH2M HILL will be at the Main Exchange and the Air Station Exchange during lunch-time, conducting short interviews to find out what people know (if anything!) about the environmental restoration (cleanup) program at Camp Lejeune.

Why: Camp Lejeune is updating its "Community Involvement Plan (CIP)" for the Environmental Restoration Program. The CIP describes how Camp Lejeune communicates with both the on- and off-Base community about the environmental restoration program at the facility, and how Camp Lejeune will provide opportunities for the public to be involved.

To understand the community's concerns and information needs about the environmental cleanup program, WE NEED YOUR HELP!

We need to know what people like you do (and do not) know about the environmental restoration program, what your concerns and interests are, whether you are getting the information you want, and how you would like to get information.

Responses will be used to update the Community Involvement Plan. The plan will include a summary of all the responses, but individual responses will be kept completely anonymous. The Community Involvement Plan will be placed in the information repository for members of the community to review, if they wish.

For More Information: If you would like more information about the Camp Lejeune environmental restoration program, or if you have any concerns, please contact the Base Public Affairs Division by telephone at 910-451-7440, by sending e-mail to cljn_globe_web@usmc.mil.

If you would like to schedule a time to meet to participate in this questionnaire, please send an email to MCBCAMLEJ.CIP@ch2m.com.

PUBLIC NOTICE
Public Meeting
And Restoration Advisory Board Meeting
Marine Corps Installations East – Marine Corps Base Camp Lejeune

The public meeting and the Restoration Advisory Board (RAB) meeting previously scheduled for February 25, 2015 was postponed due to weather and you are invited to attend the rescheduled meeting on **Wednesday April 8, 2015 at 6:00 PM** at the following location:

Coastal Carolina Community College
Business Technology Building, Room BT105
444 Western Boulevard
Jacksonville, NC 28546

Public Meeting

The Department of the Navy (DoN) is inviting public comment on the Proposed Plan for Site Unexploded Ordnance (UXO) 19 located on Marine Corps Installations East – Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ). The Proposed Plan identifies and discusses the preferred alternative for addressing potential explosive hazards in the subsurface at Site UXO-19.

In accordance with all applicable regulations, the assessment of potential risks to human health and the environment and the preferred alternative to address these risks is summarized in the Proposed Plan. The preferred alternative for Site UXO-19 is land use controls.

The Proposed Plan is based upon the findings of previous site-related documents contained in the DoN's Administrative Record for MCIEAST-MCB CAMLEJ. The Proposed Plan and other background documentation are available for public review in the Administrative Record and are located on the internet at <http://go.usa.gov/Dy5T>. The website and a hard copy version of the Site UXO-19 Proposed Plan are also available at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Please provide written comments on the Site UXO-19 Proposed Plan on or before (postmark by) **April 24, 2015** to the following address:

Mr. Dave Cleland
NAVFAC Mid-Atlantic
Marine Corps IPT
6506 Hampton Blvd
Norfolk, VA 23508

Restoration Advisory Board Meeting

The RAB meets quarterly to discuss the Base's Installation Restoration Program with the local community. You are invited to the next RAB meeting to learn more about the environmental cleanup process on the Base and to provide your input. If you would like to receive additional information about the RAB, please contact:

Ms. Charity (Rychak) Delaney
MCIEAST-MCB CAMLEJ RAB Co-Chair
(910) 451-9385

C

Appendix C *Fact Sheets*

Sample Fact Sheets for Marine Corps Base Camp Lejeune North Carolina

The following table lists many of the fact sheets published by the Navy/Marine Corps since the last CIP update in February 2011. Fact sheets have been issued as needed and appropriate to explain project activities to stakeholders. This list shows the range of topics that have been covered. Examples of some of these follow this page.

February 2011	Paradise Point Home PP-3311
April 2011	Groundwater Sampling Near Tarawa Terrace Family Housing Area
May 2011	Vapor Intrusion Mitigation Systems - Site 88 (Buildings 3, 3B, and 43) Hadnot Point Fuel Farm (Buildings 1115 and 1005) and (Building 902)
June 2011	Vapor Intrusion Mitigation Systems
June 2011	Vapor Intrusion Mitigation Systems – Hadnot Point Fuel Farm (Buildings 1115 and 1005) and Installation Restoration Site 78 (Building 902)
August 2011	Groundwater Sampling Continues Near Tarawa Terrace Family Housing Area
October 2011	Investigation of Former Off-Base Surface Danger Zones (SDZs)
February 2012	Investigation of Former Off-Base Surface Danger Zones (SDZs)
February 2012	Site UXO-23 D-9 Skeet Range Engineering Evaluation/Cost Analysis (EE/CA)
August 2012	Site UXO-14 Former Indoor Pistol Range, RR-53 Engineering Evaluation/Cost Analysis (EE/CA)
December 2013	Investigation of Former Off-Base Surface Danger Zones (SDZs)
January 2013	Results of Groundwater Testing and Soil Gas Investigation Near Tarawa Terrace Family Housing Area
January 2013	Vapor Intrusion Studies at Building 1005
February 2013	Investigation of Former Off-Base Surface Danger Zones (SDZs)
March 2014	Investigation of Former Off-Base Surface Danger Zones (SDZs)
March 2014	Vapor Intrusion Mitigation Systems
August 2014	Vapor Intrusion Investigation Program
May 2015	Groundwater Cleanup Action Near TT-84
September 2015	Environmental Condition of Property for Lot 202
November 2015	Environmental Cleanup at Marine Corps Base Camp Lejeune; 2015 Five-Year Review Fact Sheet
December 2015	Investigation Activities in the Wallace Creek Area; Marine Corps Base Camp Lejeune, North Carolina
December 2015	Investigation Activities in the New River Expansion Area (UXO-29)

Paradise Point Home PP-3311

Marine Corps Base Camp Lejeune, North Carolina

February 2011 Update



This second fact sheet is a follow-up to the November 2010 fact sheet and provides a summary of ongoing cleanup actions at Paradise Point home PP-3311. An underground heating oil tank was formerly located at this residence. Marine Corps Base Camp Lejeune has collected soil and groundwater samples and plans to excavate affected soil in the near future. The purpose of these actions is to verify that there are currently no risks to human health or the environment and to ensure that future risks do not occur.

Background

As stated in the previous fact sheet, the underground storage tanks (USTs) and associated piping were removed in 2001. Since then, additional soil and groundwater samples have been collected and analyzed to determine whether any remaining petroleum-related chemicals were affecting groundwater. Sampling was conducted in 2005, 2007, and most recently in September and December 2010. Concentrations of petroleum-related chemicals in the groundwater appeared to be decreasing in 2007, but then increased slightly in 2010.

September and December 2010 Sampling Activities

In September and December 2010, eleven soil samples and one groundwater sample were collected. The soil samples were collected from land surface to approximately four feet below the land surface. The groundwater sample was collected from approximately six feet below the surface. The soil and groundwater samples were submitted for laboratory analysis to test for chemicals that are typically found in heating oil. Soil sampling conducted in September and December 2010 has defined the extent of affected soil. The soil results revealed several compounds at concentrations above regulatory action levels.

Action levels are thresholds set for specific chemicals that may require some type of cleanup actions to prevent future risks to human health or the environment. The affected soil at the PP-3311 site is at a depth of approximately four feet below the surface. Because it is unlikely that residents

would dig down that deep, there is no immediate threat to public safety. The groundwater results revealed four chemicals at concentrations above the regulatory standards. The affected groundwater is not a source of drinking water and the potential for exposure to this groundwater is limited; therefore, the groundwater is not an immediate threat to public safety.

What's Next

As a precautionary measure, the area is being screened to determine if a pathway for potential vapors into the building exists. As depicted in the below figure, the affected soil area will be removed in early March 2011 in order to keep any more contaminants from moving into the groundwater. The removal activities are scheduled to begin on March 7, 2011 and will be completed within approximately two weeks. The work will generally be performed between the hours of 0800-1530. Orange safety fencing will be erected around the area where soil will be removed. Only authorized and properly trained personnel with appropriate safety equipment will be allowed inside the soil removal area.

By removing the affected soil, future environmental concerns will be prevented. The affected soil will be removed to a depth of approximately six feet below land surface and will then be replaced with clean soil. The clean soil may be temporarily stored on site before being placed in the excavation area. After the clean soil is placed and compacted in the excavation area, the area will be restored to original conditions. Additional groundwater monitoring may be conducted in the future.



Site UXO-23 D-9 Skeet Range Engineering Evaluation/Cost Analysis

Marine Corps Base Camp Lejeune, North Carolina
Public Meeting: February 23, 2012



Background

Site Unexploded Ordnance (UXO) 23, D-9 Skeet Range, is located west of Holcomb Boulevard and north of Parachute Tower Road and encompasses approximately 187 acres. The D-9 Skeet Range began operation in 1953 and was used for recreational shooting until it was closed in July 2011.

Investigations conducted in 2009 through 2011 identified potential unacceptable risks to human health and the environment posed by exposure to lead and polycyclic aromatic hydrocarbons (PAHs) in surface soil (0 to 1 feet below ground surface) in the vicinity of the shot fall zone. A Non-Time-Critical Removal Action (NTCRA) was recommended to remove the source of contamination at the former Skeet Range. An Engineering Evaluation/Cost Analysis (EE/CA) was prepared to evaluate alternatives for the NTCRA.



Site Map with NTCRA Area in Red

Removal Action Objectives

The objectives of the removal action are to mitigate potential unacceptable risks to human health and the environment posed by exposure to lead- and PAH-impacted surface soil and to reduce the potential for contaminant migration from soil to groundwater and surface water.

Removal Action Alternatives

Five removal action alternatives were evaluated with respect to effectiveness, implementability, and cost:

1. No Action (a baseline for comparison)
2. Excavation and Offsite Disposal
3. Excavation with Particle Separation and Backfill
4. In Situ Soil Stabilization with Excavation and Offsite Disposal
5. In Situ Soil Stabilization

Recommended Alternative

The recommended alternative is Alternative 4 in situ stabilization followed by excavation and offsite disposal. A stabilizing reagent would be mixed into the top foot of soil. Approximately 26,870 cubic yards of stabilized material would then be excavated, managed as non-hazardous waste, and transported offsite for disposal. Confirmation samples would be collected from the side walls and base of the excavation to verify that the contamination was removed.

This removal action will protect human health and the environment by permanently removing impacted soil from the site, is readily implementable through proven technologies, and is cost-effective.

Public Comment Information

The EE/CA is located on the internet at: https://niris.navfac.navy.mil/Document_Management%2F MID_ATLANTIC%2FCAMP_LEJEUNE_MCB%2FM67001_004727.pdf. The website and a hard copy version of the EE/CA are also available at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

Please provide written comments on the Site UXO-23 D-9 Skeet Range Soil Removal EE/CA on or before (postmark by) March 12, 2012 to the following address:

Mr. Bryan Beck
NAVFAC Mid-Atlantic, Code OPCEV
6506 Hampton Blvd
Building C, Room 314
Norfolk, VA 23508
Phone (757) 322-4734
Fax (757) 322-8280
bryan.k.beck@navy.mil

Results of Groundwater Testing and Soil Gas Investigation Near Tarawa Terrace Family Housing Area

Marine Corps Base Camp Lejeune, North Carolina

January 2013



This fact sheet summarizes the results of an environmental investigation near the intersection of Highway 24 and Tarawa Boulevard. Contamination from sources off of the Base is suspected to be affecting groundwater and soils on the Base. The investigation found no current risks to residents living in Base housing. The State is working to identify the off-Base sources.

Background

In 2009, Marine Corps Base Camp Lejeune conducted a study to find out if industrial and disposal activities at private properties next to the Base could be affecting the environment on the Base. The study included:

- A records search for existing information
- An on-site survey of property conditions
- Environmental testing

The area near the intersection of Highway 24 and Tarawa Boulevard was selected for investigation because of the types of businesses located just across from the Base: two former dry cleaning facilities, former underground fuel tanks at some gas stations and a moving company, and a former automotive parts store.

Investigation Results

Groundwater in this area was initially tested in 2009 and found to have levels of chemicals typically associated with dry cleaning (chlorinated solvents) and petroleum-related compounds (such as benzene and methyl tert-butyl ether [MTBE]). These levels were higher than the threshold levels set by the North Carolina Department of Environment and Natural Resources (NCDENR).

As a follow-up, in 2011 and 2012, the Base installed 14 new monitoring wells to collect groundwater samples to help learn more about the depth and location of the chemicals. This kind of information helps to determine if there are any potential risks to human health and the environment, and to help control the spread of contamination

Camp Lejeune's Drinking Water is Safe

Camp Lejeune's drinking water comes from very deep wells that are not located in the Tarawa Terrace area. These wells are not affected by the chemicals in the groundwater that is being investigated.

Your drinking water is regularly tested and continues to meet all government safe drinking water standards. Every year, Camp Lejeune publishes a drinking water quality report that provides details about where your drinking water comes from and how it compares to safe drinking water standards. You can find these reports by visiting the Base website at <http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/AnnualReports.aspx> and selecting *Holcomb Boulevard*, which is the drinking water treatment facility that serves Tarawa Terrace.

What is groundwater? Water found beneath the earth's surface, filling the spaces within and between layers of sand, soil and rock. In *aquifers*, there is enough groundwater to be used as a source of water for drinking, watering plants, and other purposes.

What are threshold levels? If concentrations of chemicals are below the threshold levels defined by environmental regulatory agencies, it is generally agreed that little or no risk to human health or the environment is likely to result. If chemicals are above threshold levels, further study of possible health or environmental risks is needed.

What is vapor intrusion? Under the right conditions, certain types of chemicals can move through the soil or shallow groundwater and seep into cracks in basements, foundations, or other openings. Vapor intrusion can be a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk. For this reason, EPA requires that groundwater contaminated with volatile chemicals be tested within 100 feet of buildings.



if needed. The Base tested groundwater from 40 new and existing monitoring wells, which are shown in Figure 1.

Using these groundwater testing results, the Base was able to define how deep and how large the area of contamination was in the groundwater. Because the water where these chemicals were found is deep under the ground and is not used for drinking water, there is no human exposure to these contaminants and therefore no health concerns.

Also to help determine if there is a potential for vapor intrusion, in 2012 the Base collected samples of groundwater and soil gas near residences on Bougainville Drive, as shown in Figure 1.

The results of the groundwater and soil gas testing confirmed that there are no risks from vapor intrusion to the residences on Bougainville Drive.

What Happens Next?

The Base has informed NCDENR that chlorinated solvents and petroleum products from an off-Base source have contaminated groundwater on the Base. NCDENR has started the process to try to identify the potential off-Base source of this contamination. The Base will regularly test the groundwater to ensure that unacceptable risks to human health and the environment do not develop.

People have to be exposed to chemicals for a potential health risk to occur This is called a "complete exposure pathway."	
How could people be exposed to chemicals?	Is there an exposure pathway at Tarawa Terrace?
Ingestion: For example, by drinking water containing chemicals	NO – Groundwater at Tarawa Terrace is not used for drinking water
Skin contact: For example, gardening where soil contains chemicals	NO – Any areas of soil affected by these chemicals are outside the Base
Inhalation: For example, breathing chemical vapors	NO – However, the Base will regularly monitor to make sure there is no pathway in the future

If you have questions or would like additional information about vapor intrusion and the proposed activities at these sites, please contact the Camp Lejeune Remedial Project Manager:
Charity Rychak, Marine Corps Base Camp Lejeune
Office: 910-451-9385, email: charity.rychak@usmc.mil



Drill Rig

Figure 1. Sample Locations



- Legend**
- Shallow Groundwater Testing Location (less than 20 ft bgs)
 - Deep Groundwater Testing Location (between 30 and 60 ft bgs)
 - Groundwater and Soil Gas Testing Location
 - Creek
 - Jurisdictional Wetlands
 - Base Boundary



To ensure that Marine Corps Base Camp Lejeune units are combat ready, certain areas on the Base are used to train military personnel in the use of munitions. For safety purposes, each munitions training range is associated with a safety buffer area, called a surface danger zone (SDZ).

Several years ago, Camp Lejeune discovered that portions of some SDZs had been located outside the surveyed Base boundary during specific timeframes dating back to the 1940s.

Although there has been no indication that a safety risk exists, it is possible that munitions or munition fragments may have inadvertently landed beyond the boundaries of the Base.

The purpose of this investigation is to:

1. Determine if military munitions or munitions-related debris are present in off-base areas;
2. Identify any potential safety or environmental risks; and
3. Determine if any further action is necessary to protect human health and the environment.

The initial SDZ investigation recommended that an additional, focused investigation be conducted within the area. The initial investigation report, along with the additional investigation work plan, is available to the public in two local libraries (see page 5).

Off-Base Areas Investigated

Figure 1 shows the off-base areas that may have been affected. The largest area consists of the SDZ for Rocket Range Number 1, which has not been used for more than 50 years.

The initial investigation area, which is mostly marsh land, includes three private properties, totaling approximately 301 acres; the southwestern tip of Bear Island (182 acres of Hammocks Beach State Park); state-owned salt marshes that lie between Bear Island and the mainland; state waters used for fishing and recreation, including portions of Bear Creek; and shallow water areas of the Atlantic Intracoastal Waterway.

Initial Investigation Completed

From October 2009 through May 2010, Camp Lejeune conducted an investigation of properties along the southeastern boundary of the Base.

The site investigation work consisted of:

- Digital geophysical mapping (DGM) using magnetic sensors that detect metal objects. Sensors were mounted on helicopters flying over water and wetlands, and were hand-carried on land (where accessible).
- Investigating the southwestern tip of Bear Island (part of Hammocks Beach State Park), where objects detected by DGM were dug up to evaluate if they were munitions-related.
- Sampling soil, water, and sediment to evaluate if munitions-related contamination was present.

Digital geophysical mapping surveys use magnetometers to locate and create a digital map of magnetic anomalies—metal objects submerged under water or buried under the ground—that might be munitions. The instruments can be hand-carried, towed behind a boat, or mounted onto aircraft. The resulting data are used to select areas for further evaluation.

Aerial Geophysical Survey

Helicopters flew over the entire 1,593 acre investigation area to locate and create a digital map of metallic debris, called magnetic anomalies. The anomalies could be munitions-related material submerged under water or buried under the ground or unrelated metallic objects, such as anchors, crab pots, soda cans, pipes, and signs.

The aerial survey identified 2,059 magnetic anomalies. Most of the magnetic anomalies were found where general (non-military) metallic debris would normally be expected: along beaches, waterways, and recreation areas on islands. Metallic items were most densely clustered at the mouth of Bear Inlet, where Bear Creek and the Intracoastal Waterway

come together, and along a main channel through the east-central portion of the survey area (Figure 2).

Data from the aerial and terrestrial DGM surveys only show whether or not metal is present. They do not distinguish between munitions and other metallic objects.

Terrestrial Digital Geophysical Mapping

Portions of accessible land were investigated using magnetometers to identify specific locations that might contain buried munitions-related items. The terrestrial investigation covered 27 acres of land, including upland areas, intertidal zones (land that is exposed at low tide), sandbars in Bear Inlet, seven islands made up of material dredged from the Intracoastal Waterway, and other areas where land was exposed above the water.

Because the coastal environment is sensitive, only the minimum amount of vegetation was cleared to allow DGM equipment to pass through and environmental samples to be collected.

An intrusive investigation includes digging up some or all of the metallic objects identified by a geophysical survey to find out if they are munitions-related.

Intrusive Investigation of Bear Island

In November 2010, a combined geophysical survey and intrusive investigation was conducted within 200 acres of the historic Rocket Range 1 SDZ at the southern tip of Bear Island. The purpose was to determine if military munitions or munitions-related debris were present in the area. The investigation was conducted during the off-season to minimize any disruption to recreational users at Hammocks Beach State Park. All metallic items identified on Bear Island by aerial and terrestrial geophysical surveys were excavated by hand digging.

No munitions or explosives of concern were discovered,

but some munitions-related debris was found and removed: one empty rocket fuel tank, three dummy bombs, and one 25-millimeter cartridge case.

During the environmental sampling conducted on Bear Island in January 2010, an aircraft flare was discovered in a heavily vegetated area. The flare was moved to a disposal pit about 75 feet away and destroyed by controlled detonation.

Environmental Sampling

For the environmental investigation, the team collected samples from soil, surface water, groundwater, sediment and pore water (water that is between sediment particles).

The samples were analyzed for explosives residues, perchlorate (a constituent in rocket propellant), and metals, to evaluate whether contamination related to the former range activities was present.

Explosives residues were not detected in any samples. Perchlorate was detected in groundwater samples at low levels, which were well below the regulatory screening level.

When concentrations of chemicals are below the screening levels defined by environmental regulatory agencies, it is generally agreed that little or no risk to human health or the environment is likely.

Based on the results of the environmental sampling, there is no unacceptable risk to humans or the environment at the site from exposure to soil, surface water, groundwater, pore water, or sediment. Therefore, no further environmental sampling is needed.

Next Steps

Except at Bear Island, the investigation thus far has not included intrusive investigation of the geophysical anomalies identified by the aerial and terrestrial surveys. Since an aircraft flare and some other munitions-related debris were discovered on Bear Island, it is possible that some of the other anomalies are munitions-related items. Therefore, an expanded investigation is planned to further evaluate the presence or absence of munitions and munitions-related debris in terrestrial or coastal wetland areas.

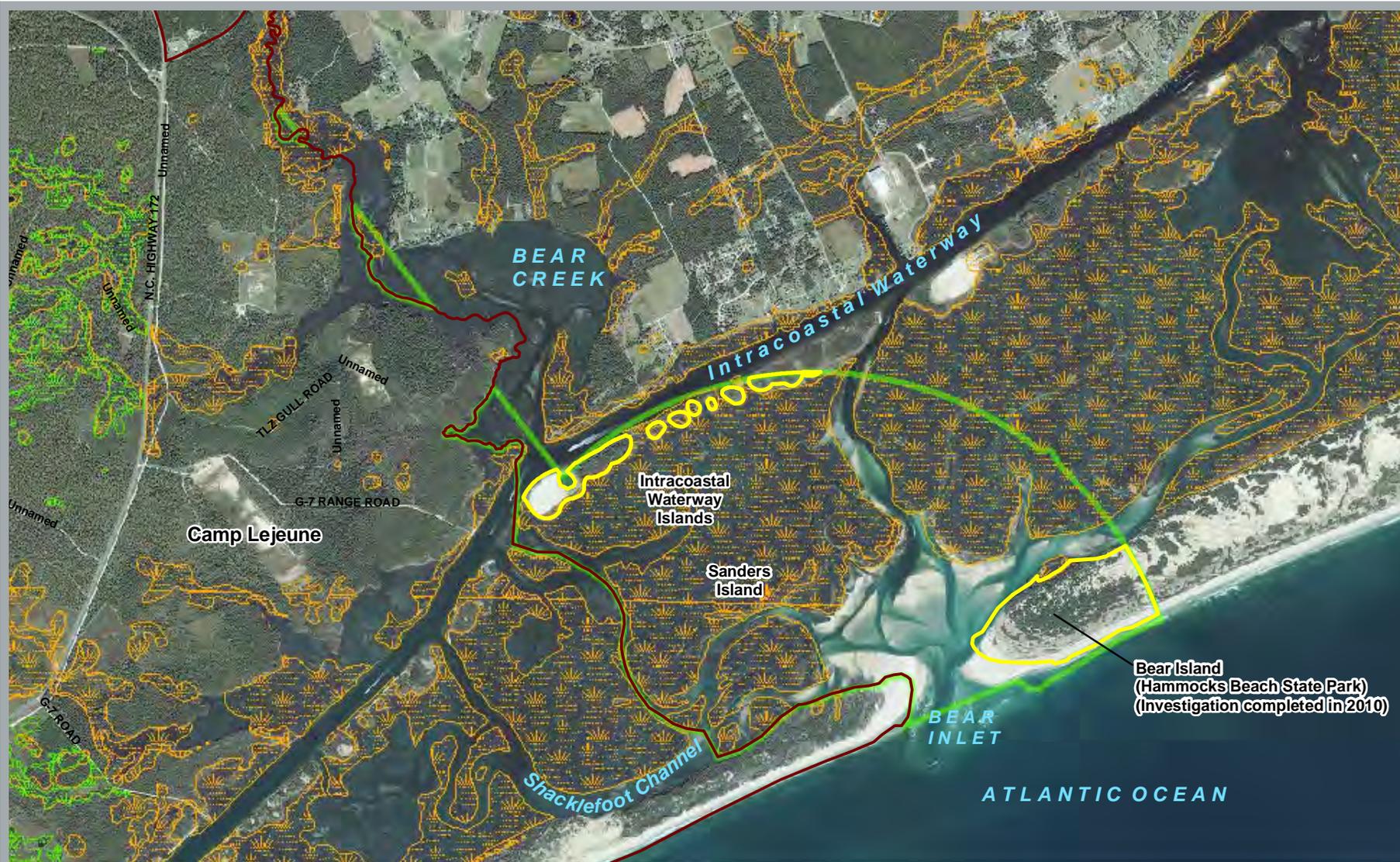
An expanded investigation of anomalies that were identified during the aerial and terrestrial surveys will identify the types of metallic objects and potential



Aircraft flare found on Bear Island



Helicopter during aerial survey



Legend

- ▬ Installation Boundary
- ▬ Land-Based Investigation Area
- ▬ Jurisdictional Wetlands
- ▬ Coastal Wetlands
- ▬ Off-Base SDZs

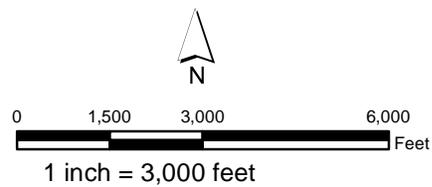


Figure 1 – Former Off-Base Surface Danger Zones



Legend

- Terrestrial DGM Anomalies
- Aerial Survey Anomalies
- ▭ Off-Base SDZs
- ▭ Installation Boundary

Note: Anomalies are not to scale.
The anomalies could be munitions-related material or unrelated metallic objects.

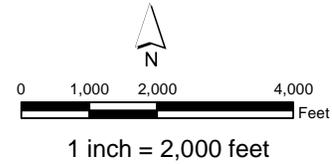


Figure 2 – Digital Geophysical Mapping Results



Typical topography within the proposed investigation area



hazards that are present in the former SDZs. Anomalies selected for investigation were generally located in areas more accessible to the public or closer to the former range target areas. The investigation team will use hand-held magnetometers and metal detectors to locate the objects and will dig them up by hand.

This comprehensive investigation will focus on areas where the public is likely to go, areas near known ranges, privately owned property, and areas where the earlier investigation identified higher concentrations of anomalies. The findings from the intrusive investigation will be used to determine if follow-up actions are needed and, if so, to plan those actions.

The intrusive investigation work is expected to begin in March 2013 and is anticipated to be completed by June 2013.

How to Find More Information

Restoration Advisory Board

You can learn more about the SDZs investigation work online at:

<http://www.lejeune.usmc.mil/sdz/siteinspection>

You also can learn more about Camp Lejeune's environmental cleanup and munitions response by attending meetings of the Restoration Advisory Board (RAB). The best way to get involved in the process is to become a RAB member.

The RAB is made up of community members, along with representatives of federal and state regulatory agencies, Camp Lejeune, and the Navy. The RAB acts as a focal point for exchanging information between Camp Lejeune and the local community about environmental restoration and

munitions response activities.

The RAB meets quarterly at the Coastal Community College, in Jacksonville, North Carolina. The date, time, and place of RAB meetings are advertised in the *Jacksonville Daily News*, the *Globe*, and the *Rotovue* newspapers. The public is always welcome to attend RAB meetings and membership is encouraged.

Administrative Record

Marine Corps Base Camp Lejeune compiles and makes available to the public a complete record of documents that were used to make investigation and cleanup decisions, called the Administrative Record File.

The Administrative Record File and other information about Camp Lejeune's Environmental Restoration and Munitions Response Programs is available online at: <http://go.usa.gov/TWs>.

Final reports are also available on CDs in the Reference Room at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
Phone: 910-455-7350

For your convenience, reports and fact sheets about the Off-Base SDZs investigation are available at:

Swansboro Branch Library
1460 West Corbett Avenue
Swansboro, NC 28584
Phone: 910-326-4888

Marine Corps Base Camp Lejeune has been investigating off-base areas that might have been affected by munitions training in the past.

The purpose of the investigation is to find out if military munitions or munitions-related debris are present in the area, if they pose an unacceptable safety or environmental risk, and whether or not further action is needed. The investigation is proactive, not because of any incident or discovery of munitions.

This newsletter describes the results of the investigation and the additional investigation that is planned.

A previous newsletter (June 2009) provided more information about the historic training areas that are being investigated. It can be found online at: http://www.lejeune.usmc.mil/sdz/information/SDZ_Factsheet_060309.pdf

For questions about Camp Lejeune, please contact:

Mr. Joe Ramirez, Government External Relations

Marine Corps Base

PSC Box 20004

Camp Lejeune, NC 28542-0004

910-451-7645

joe.m.ramirez@usmc.mil

CH2M HILL, Inc.
(Attn: Camp Lejeune Team)
5701 Cleveland Street, Suite 200
Virginia Beach, VA 23462

Place
Stamp
Here

Vapor Intrusion Investigation Program

Marine Corps Installations East

Marine Corps Base Camp Lejeune, North Carolina

August 2014



Background

The purpose of this fact sheet is to provide building occupants with information about vapor intrusion (VI), what to expect when sampling takes place at your building, and to identify a point-of-contact to answer any questions.

A Base-wide evaluation was completed in 2010 and updated in 2013 to evaluate the potential for VI to affect indoor air in buildings that are located near groundwater or soil known to be contaminated with volatile organic compounds (VOCs). VOCs are chemicals that contain carbon and can change into a vapor phase at room temperature. The Base-wide evaluation included active sites where groundwater data were collected between 2002 and 2012. No immediate risks to building occupants were identified during this evaluation.

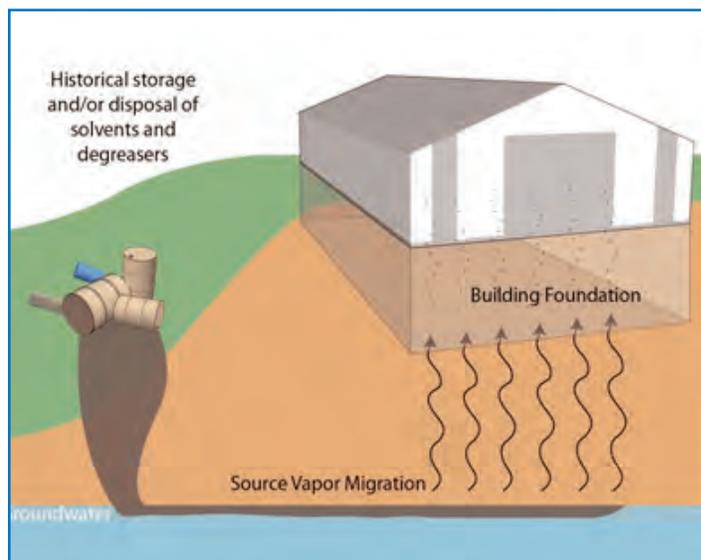
The VOC contamination resulted from past industrial activities at the Base. Investigations and remedial actions are continuing to reduce the levels of VOCs in soil and groundwater, which will ultimately eliminate potential sources of vapors at or near Base buildings in the future.

In the meantime, VI sampling is ongoing at several buildings located in the vicinity of VOC contamination. These efforts are being conducted in partnership with the U.S. Environmental Protection Agency (USEPA) and North Carolina Department of Environment and Natural Resources (NCDENR).



What is Vapor Intrusion?

Under the right conditions, certain types of chemicals can move through shallow groundwater and soil, and into a vapor phase which can seep into cracks in basements, foundations, or other openings of a building. VI can be a concern because vapors can migrate into the building and build up to a point where the health of residents or workers in those buildings could be at risk. For this reason, both the Draft USEPA and the Final NCDENR VI Guidance documents recommend that VI be evaluated anytime groundwater or soil contaminated with VOCs is within 100 feet of buildings.



Not all chemical vapors found indoors come from contaminated soil and groundwater. Many materials and substances commonly found in commercial and residential settings contain VOCs that may be detected by indoor air testing. These include paints, paint thinners, gasoline-powered machinery, certain building materials and cleaning products, certain types of personal products, dry-cleaned clothing, and cigarette smoke. Even VOCs from motor vehicle emissions and other outdoor sources can contaminate indoor air. When VOCs from these types of sources are detected during indoor air sampling, they are referred to as background sources of VOCs.



What to Expect at Your Building

A VI investigation can require several days of onsite activities, but should not cause major disruption to everyday activities in your building. You may see and hear the following sampling techniques and equipment while a VI investigation is being conducted.

- **Subslab Soil Gas Samples** are collected from the air directly below the building. These samples show what may be available to enter the building and indicate if there could be a potential vapor intrusion issue. To collect a subslab soil gas sample, a technician will drill a hole (about the size of a quarter) through the basement floor/ slab and install a sample probe. Sampling the location will take a technician about an hour. Samples from the probe are typically collected in canisters and the probe is sealed with a cap that can only be opened with a specialized tool.
- **Indoor Air Samples** are collected for evaluation of VOC concentrations in indoor air to determine whether VI is occurring and for comparison to regulatory screening levels. Indoor air samples are typically collected only after VOCs in subslab soil gas have been detected at levels above subslab soil gas screening levels. Indoor air samples can be collected using handheld devices for real-time measurements or using canisters to get an average concentration over the course of an entire day. The canisters, which are about the size of a volleyball, collect air silently. After 24 hours, a technician will return to collect the canister and the sample will be sent off-site for laboratory analysis.
- **Outdoor Air Samples** are usually collected for comparison to indoor air to show the typical “background” concentrations in the area. They are collected upwind of the building using canisters similar to those used for indoor air sampling. These canisters are typically chained to permanent structures such as light or telephone poles. The canisters remain in place for 24 hours.
- **Groundwater Samples** are collected from monitoring wells, usually located outside of the building.



- Use of cleaning products such as bathroom cleaners, furniture polish, appliance cleaners, all-purpose cleaners, floor cleaners, air fresheners, and odor eliminators.
- Working on projects that involve paint, varnish, glue, and similar products.
- Use of solvents or degreasers.
- Cleaning guns (weapons) within the week prior to the sampling event.
- Smoking indoors or within 20 feet of open doors or windows.
- Windows should remain closed if possible during the event.
- Disturbance of sampling devices or canisters.

The results of the sampling will be provided to building occupants.

As a Building Occupant, What Should I Do To Prepare For the Proposed Sampling Event?

Because it is not always easy to tell whether VOCs detected during indoor air sampling are due to background, VI from the soil/ groundwater, or both, you can help make the testing more accurate by avoiding some products and actions that could influence the sampling results. The following are examples of activities and/or products which can impact sampling results:

- Storing freshly dry-cleaned clothing indoors.
- Use of personal products such as nail polish remover, hair spray, and perfume. If the building being sampled is your work place, it's okay to apply these products at home before you come to work.

How to Find More Information

If you have questions, please contact:

Charity Rychak Delaney

910-451-9385

Email: charity.delaney@usmc.mil

Jenni Reed

910-451-9017

Email: jenni.reed@usmc.mil

For general information about the Camp Lejeune Environmental Restoration Program please visit:

<http://go.usa.gov/Dy5T>

The USEPA's “**Citizen's Guide to Vapor Intrusion Mitigation**” can be downloaded from the Links page there.

GROUNDWATER CLEANUP ACTION NEAR TT-84

Marine Corps Installations East – Marine Corps Base Camp Lejeune
North Carolina
May 2015



This fact sheet summarizes the results (and follow-on actions) of a recent groundwater cleanup action conducted in the vicinity of Tarawa Terrace Elementary School (TT-84) within the former oil storage area now referred to as Solid Waste Management Unit 350 (SWMU 350), located near Highway 24. Due to the success of this cleanup action, it is now being expanded to the southern part of the site just north of TT-84. These efforts are being conducted by Camp Lejeune's Environmental Management Division (EMD), in partnership with North Carolina Department of Environment and Natural Resources (NCDENR).

Background

The former oil storage area (SWMU 350) contained six aboveground storage tanks. From 1942 to 1984, the tanks were used to store liquid propane. After 1984, the tanks were used to store waste oil until they were removed in 1993.

Investigations to assess soil and groundwater impacts at SWMU 350 have been conducted since 1990. Chemicals have been discovered in soil and groundwater in the area where the tanks were formerly located. The Base removed the contaminated soil in 2006; however, chemicals remain in groundwater. **The groundwater near TT-84 is NOT used as a source of drinking water.**

Chemicals were detected in the groundwater at levels above the NCDENR threshold levels and currently make up two separate contaminant plumes, originating from different sources:

- One plume (shown in blue on **Figure 1**) is approximately 250 feet wide and 380 feet long and is coming from the location of the former waste oil storage tanks at SWMU 350. This plume contains naphthalene dissolved in the groundwater.
- The second plume (shown in green on **Figure 1**) is longer, up to 400 feet wide and more than 1,200 feet long, and likely originates from a source off-Base. This plume contains chemicals typically associated with gasoline, including benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, and 1,2-dichloroethane dissolved in groundwater.

The groundwater test results were used to evaluate potential risks to human health and the environment. **Because chemicals in the shallow groundwater near TT-84 are below vapor intrusion State thresholds, and since the water is under ground and is not used as a source for drinking water, exposure pathways are considered incomplete.**

What is groundwater? Groundwater is water that fills the spaces within and between layers of sand, soil and rock. In aquifers, there is enough groundwater to be used as a source of water for drinking, watering plants, and other purposes.

What are threshold levels? Threshold levels are levels set by the environmental regulatory agencies to determine whether action is needed to protect human health or the environment. If concentrations of chemicals are below the threshold levels, it is generally agreed that little or no risk to human health or the environment is likely to result. If chemicals are above threshold levels, further study of possible health or environmental risks is needed.

What is a plume? A plume is a volume of contaminated groundwater that extends downward and outward from a source. The shape and movement of the contaminated groundwater depends on the geology, chemicals in the plume, and the flow characteristics of the local groundwater.

What is biosparging? Biosparging is a technology that stimulates cleanup of contaminants by introducing oxygen (air) into the groundwater.

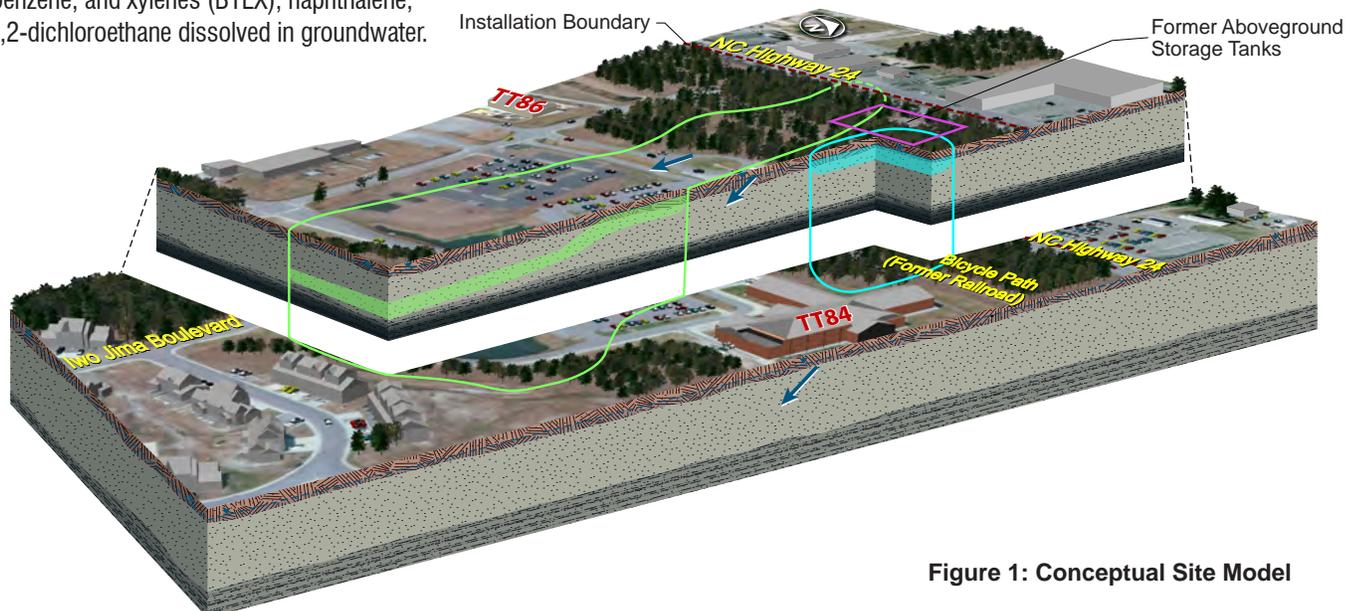


Figure 1: Conceptual Site Model



<p>People have to be exposed to chemicals for a potential health risk to occur This is called a “complete exposure pathway.”</p>	
<p>How can people be exposed to chemicals?</p>	<p>Is there an exposure pathway at Tarawa Terrace?</p>
<p>Ingestion: For example, drinking water that contains chemicals</p>	<p>NO – Groundwater at Tarawa Terrace and SWMU 350 is not used for drinking.</p>
<p>Skin contact: For example, gardening where soil contains chemicals</p>	<p>NO – Soil affected by these chemicals have been removed.</p>
<p>Inhalation: For example, breathing chemical vapors</p>	<p>NO – Testing found no exposure pathway, and chemicals in shallow groundwater near buildings are below state thresholds.</p>

To minimize disruption of school activities from construction, the expanded biosparging system will be installed in early June and operated during the summer months. The construction will involve drilling four biosparging wells and three soil gas monitoring points. Soil gas will be monitored to make sure that contaminants in the groundwater do not evaporate into the air pores in the soil above the groundwater plume creating a potential exposure pathway into structures commonly known as “vapor intrusion.” The soil gas monitoring points will be sampled to evaluate that the vapor intrusion pathway does not become a complete exposure pathway (**Figure 2** and **Graphics 1 and 2**). System components will be constructed below ground surface.

Camp Lejeune’s Drinking Water is Safe

Camp Lejeune’s drinking water comes from deep wells located in areas away from Tarawa Terrace. These wells are not affected by the groundwater that is being investigated.

Your drinking water is tested routinely and continues to meet all government safe drinking water standards. Every year, Camp Lejeune publishes a drinking water quality report that provides details about where your drinking water comes from and how it compares to safe drinking water standards. You can find these reports by visiting the Base website at <http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt/AnnualReports.aspx> and selecting Holcomb Boulevard, which is the drinking water treatment facility that serves Tarawa Terrace.

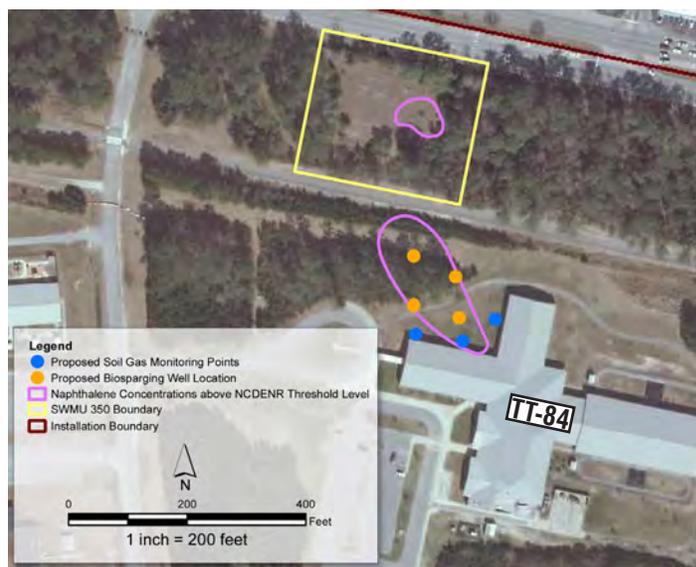


Figure 2: Proposed Biosparging System Conceptual Layout

Cleaning Up the Groundwater

In November 2011, the Base began cleaning up the groundwater in the SWMU 350 area. Fluids were injected into the second plume (shown in green on **Figure 1**) to break down the chemicals into harmless substances such as water and carbon dioxide. The injections were conducted in January 2012 and May 2013. Results indicate that the injections were successful in reducing BTEX concentrations by approximately 65 to 85 percent.

In April 2013, the Base conducted a pilot study to test the effectiveness of biosparging on treating naphthalene-impacted groundwater in the first plume (shown in blue on **Figure 1**). One month after the system start-up, analyses of groundwater from the study area found naphthalene was either not detected or when detected, naphthalene concentrations were below the NCDENR threshold level. Because of the pilot study success, the Base plans to test effectiveness of biosparging on the naphthalene in groundwater in the southern portion of the site, north of the Tarawa Terrace Elementary School.



Graphic 1: Drilling Operations



Graphic 2: System Surface Completion

For More Information

If you have questions, please contact the Base Environmental Management Division:

Charity Rychak Delaney
910-451-9385

Email: charity.delaney@usmc.mil

Environmental Condition of Property for Lot 202

Marine Corps Base Camp Lejeune, North Carolina

September 2015



This fact sheet summarizes the May 2014 Environmental Condition of Property (ECP) Study on Lot 202. This study was performed to assess the potential presence of hazardous substances and evaluate whether the lot is suitable for real estate transfer. The Lot 202 ECP Report concluded that the property is suitable for use as a controlled area storage yard, as long as existing land use controls continue to be followed.

Background

Lot 202 is an approximately 4.2-acre area located in the northeast portion of Camp Lejeune between Holcomb Boulevard and Piney Green Road. Several sites related to Camp Lejeune's environmental restoration program are located adjacent to Lot 202. The environmental site known as Operable Unit (OU) 2, which includes Sites 6 and 82, overlaps and surrounds Lot 202. The munitions site known as Unexploded Ordnance (UXO)-22 is located to the north and east (**Figure 1**).

Most recently, Lot 202 has been used to store military equipment, vehicles, hydraulic oils, and other non-hazardous supplies. It is surrounded by a locked chain-link fence with an access gate at the north end. ***The recent ECP Study of Lot 202 identified one area containing buried metals within the northern portion of Lot 202. No unacceptable health risks were identified from potential exposure to soil within Lot 202 or from groundwater beneath Lot 202. Volatile organic compounds (VOCs) in groundwater, associated with adjoining Site 6, have the potential to migrate beneath the northeastern portion of Lot 202 at concentrations that would result in an unacceptable health risk if used as a drinking water source. However, the groundwater beneath this portion of the Base is not used as a drinking water source. Additionally, land use controls are in place at Lot 202 to further prevent exposure to any contamination that might be present.***

Existing Lot 202 Land Use Controls

Land use controls have been in place since 2001 for OU2 to prevent or reduce potential exposure to soil and groundwater contamination remaining on site. Because it is located within the boundaries of OU2, activities at Lot 202 are also restricted by these land use controls (**Figure 1**), which include:

- Only industrial land use is allowed (i.e. no residential use),
- "Intrusive activities" that would disrupt the soil within the waste disposal areas and groundwater within the vicinity of the VOC plumes are not allowed without special permission (i.e. digging and construction restrictions), and
- Withdrawal and use of the groundwater is not allowed.

A land use control is also being implemented for OU2 (and Lot 202), which requires evaluating the potential for vapor intrusion to occur if buildings are constructed in close proximity to the groundwater VOC plumes. It also requires actions be taken to prevent or reduce vapor intrusion if unacceptable risks are identified. **Camp Lejeune's**

Camp Lejeune's Environmental Restoration Program

In response to environmental conditions that resulted from historical disposal, storage, and handling of hazardous waste, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) in 1986. Together, these laws are commonly referred to as "Superfund."

Camp Lejeune's Environmental Restoration Program (ERP) follows the processes prescribed by CERCLA regulations and guidance for investigating and addressing environmental contamination, as well as potential health and safety hazards from unexploded ordnance (UXO), discarded military munitions, and munitions constituents. Decisions about how to address contamination at a site include an analysis of potential risks to human health and the environment under various current and future scenarios. For there to be a human health risk, there must be a "pathway" for contaminants to reach a person. If there is no pathway, there cannot be a risk. Therefore, the remedy for a site may include "land use controls" to eliminate or restrict the pathway and the risk by preventing or reducing contact with contaminants.

Environmental Restoration Program regularly conducts sampling activities in the area of Lot 202. Any future tenants of Lot 202 should be aware that environmental sampling staff may need access to the site to sample existing or future groundwater monitoring wells.

ECP Study

The Lot 202 ECP Study consisted of interviewing facility personnel and searching historical records to determine prior uses of the property. The interviews and historical records found that there were no documented instances where hazardous or petroleum substances were stored, disposed, or released on Lot 202; however, it was noted that buried debris may exist beneath Lot 202. Based on this information, the environmental conditions of the lot, and especially the potential for buried debris, were assessed by conducting several investigations and studies, including:

- Metal detection equipment was used to identify and map buried metallic items, (also known as digital geophysical mapping [DGM]),



- Potential disposal/burial areas identified were excavated,
- Soil and groundwater sampling was conducted, and
- Human health risks were evaluated.

One area of potentially buried metals was identified during the DGM, within the northern portion of the lot (**Figure 1**; red area on Figure 1 inset map). Exploratory excavations performed within these potential burial areas found pieces of metal, wood, and other debris (such as broken glass), but no sources of environmental contamination or munitions.

The results of the environmental sampling indicated no unacceptable health risk associated with exposure to the Lot 202 soil and groundwater. VOC concentrations (primarily chlorobenzene) in a groundwater monitoring well located adjacent to and east of Lot 202, indicate that using this well for potable (drinking) water would result in an unacceptable health risk. These VOCs have the potential to migrate beneath Lot 202 (as inferred on **Figure 1**); however, the groundwater beneath this portion of the Base is not used as a drinking water source and land use controls are in-place to prohibit groundwater use.

Conclusions

The Lot 202 ECP Report concluded that the property is suitable for use as a controlled area storage yard, as long as the land use controls imposed on the area remain in place. The ECP Report findings and recommended land use controls have been reviewed and approved by the North Carolina Department of Environment and Natural Resources and the United States Environmental Protection Agency. Any ground disturbance or intrusive activities (such as site grading, digging, utility installation, etc.) must be coordinated with Camp Lejeune's Environmental Management Division (EMD) to ensure there is no violation of the existing land use controls.

What is groundwater? Groundwater is water that fills the spaces within and between layers of sand, soil and rock. Aquifers typically contain large amounts of groundwater that can be drawn to the surface for drinking water, irrigation, and other purposes.

What is a plume? A plume is a volume of contaminated groundwater that extends downward and outward from the source of contamination. The shape and movement of the contaminated groundwater depends on the local geology, chemicals in the plume, and the flow characteristics of the local groundwater.

Lot 202 Facing North



For More Information

If you have questions on the Environmental Restoration Program, please contact the Base Environmental Management Division:

Charity Delaney at (910) 451-9385
Email: charity.delaney@usmc.mil

For general information about the Camp Lejeune Environmental Restoration Program please visit: <http://go.usa.gov/Dy5T>

Internet access may be obtained at:

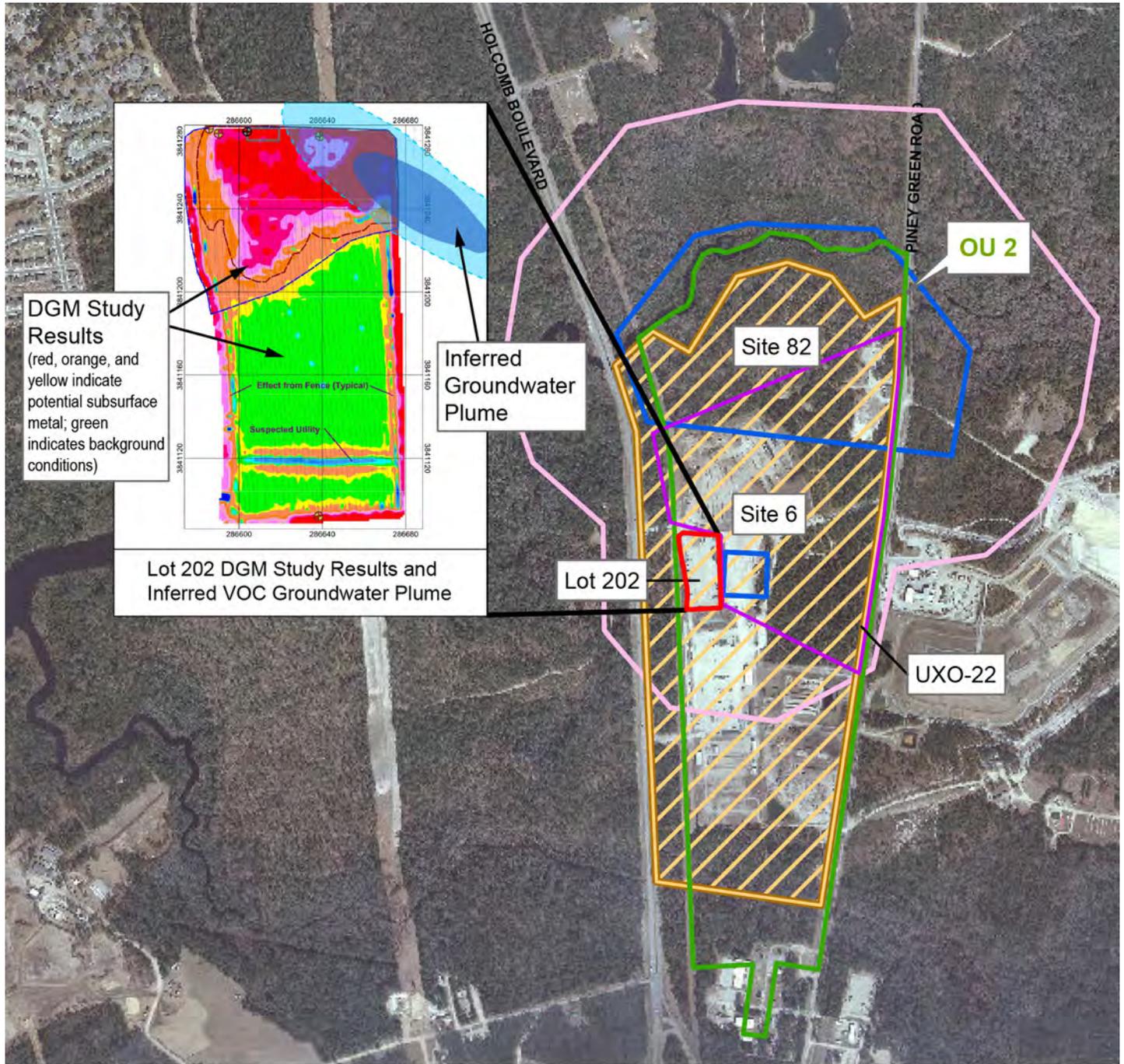
Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
910-455-7350

The current status of all environmental and munitions sites at Camp Lejeune can be found in the "Site Management Plan" on the website.

If you have questions about your health, please consult your family doctor.



Figure 1. Site Location and Land Use Controls



DGM Study Results
(red, orange, and yellow indicate potential subsurface metal; green indicates background conditions)

Lot 202 DGM Study Results and Inferred VOC Groundwater Plume

Inferred Groundwater Plume

Site 82

Site 6

Lot 202

UXO-22

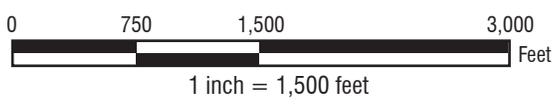
OU 2

HOLCOMB BOULEVARD

PINEY GREEN ROAD

Legend

- Approximate Boundary of Lot 202
- UXO-22 Boundary
- Operable Unit 2
- Land Use Control Boundaries
- Aquifer Use Control Boundary
- Non-Industrial Use Control Boundary
- Intrusive Activities Control Boundary (Soil)
- Intrusive Activities Control Boundary (Groundwater)

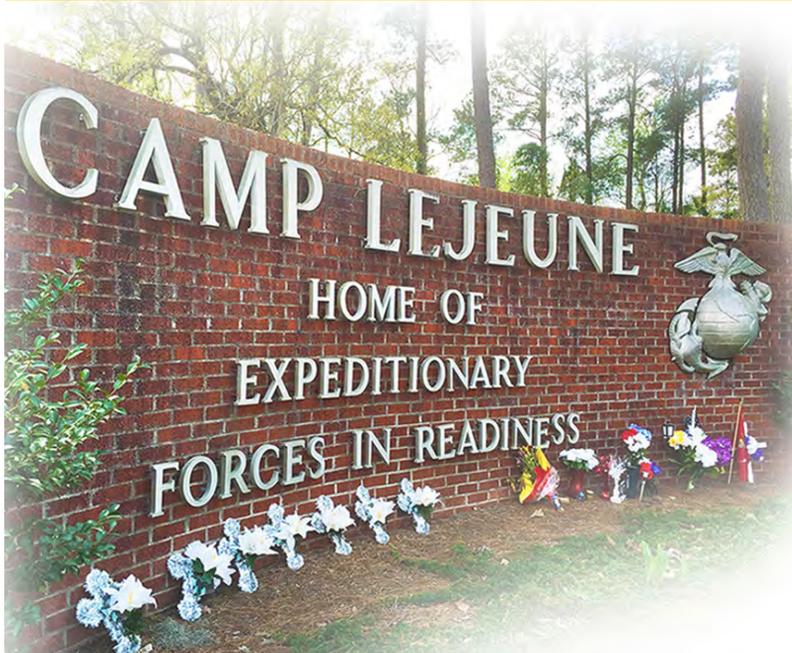




ENVIRONMENTAL CLEANUP AT MARINE CORPS BASE CAMP LEJEUNE

2015 Five-Year Review Fact Sheet

November 2015



This fact sheet summarizes the results of the 2015 Five-Year Review at Marine Corps Base Camp Lejeune (MCB Camp Lejeune). Five-Year Reviews are conducted to ensure current environmental cleanup activities are effectively protecting public health and the environment. *The 2015 Five-Year Review indicated all ongoing remedial actions at MCB Camp Lejeune are protecting human health and the environment.* The review also provided recommendations to ensure some remedies will continue to be protective in the long-term.

FIVE-YEAR REVIEW

The Department of Defense (DoD), working in partnership with the Navy, MCB Camp Lejeune, United States Environmental Protection Agency (USEPA), and North Carolina Department of Environmental Quality (NCDEQ) has completed a Five-Year Review of ongoing environmental cleanup actions at MCB Camp Lejeune. The purpose of the Five-Year Review is to ensure that the cleanup actions are continuing to protect human health and the environment. A site is included in the Five-Year Review if contaminants remain above levels that would allow for unlimited use and unrestricted exposure and if there is a *Record of Decision (ROD)* in place. Seventeen "operable units" or OUs, covering 26 sites, were evaluated in this Five-Year Review.

Words shown in italics are defined in text boxes.

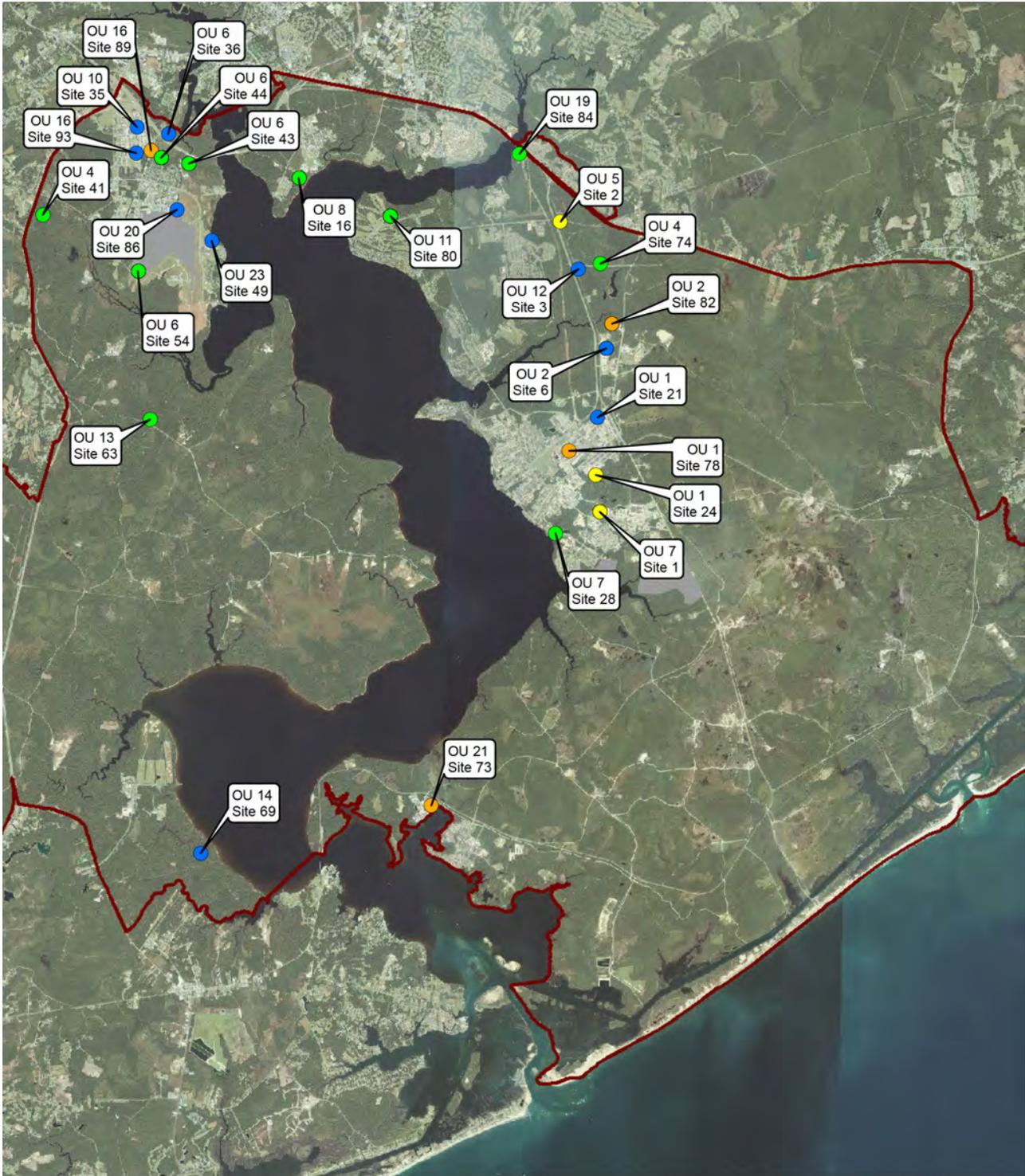
The Record of Decision (ROD) documents the selected remedy following consideration of public comments. It reflects an evaluation of the potential human health or environmental risks posed by the site.

BACKGROUND

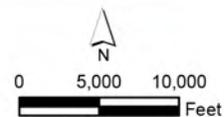
MCB Camp Lejeune is a military installation in Onslow County, North Carolina. The Base's mission is to maintain combat-ready units for deployment and humanitarian missions abroad. Historical operations, storage, and disposal practices at MCB Camp Lejeune resulted in environmental impacts to soil and groundwater. The DoD is responsible for identifying, assessing, and cleaning up these environmental impacts. The investigation and cleanup is being conducted under the Navy's Installation Restoration Program (IRP) and under provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as "Superfund."

A brief overview of the 26 sites evaluated in MCB Camp Lejeune's 2015 Five-Year Review are described on the remaining pages, organized by the type of remedy that is currently in place for each site. Details are found in the Five-Year Review report, which can be accessed in the Administrative Record (see page 8).

Five-Year Review Sites at MCB Camp Lejeune, North Carolina



- Legend**
- Ongoing Remediation, Long-Term Monitoring and/or Monitored Natural Attenuation, and Land Use Controls
 - Long-Term Monitoring and/or Monitored Natural Attenuation, and Land Use Controls
 - Land Use Controls
 - No Further Action
 - Installation Boundary



Ongoing Remediation, Long-Term Monitoring and/or Monitored Natural Attenuation, and Land Use Controls

Remedies for the following sites include an ongoing treatment component, as well as *Long-term Monitoring (LTM)* and/or *Monitored Natural Attenuation (MNA)*, and *Land Use Controls (LUCs)*.

Long-term Monitoring (LTM) is monitoring that is conducted after a remedy has been completed to evaluate whether the remedial action continues to achieve the objectives.

Monitored Natural Attenuation (MNA) is a remedy that relies on natural processes to clean up or “attenuate” contamination in soil and groundwater. Natural attenuation occurs at most sites; however, the right conditions must exist underground for natural attenuation to clean sites adequately. These conditions are monitored to make sure that natural attenuation is working.

Land Use Controls (LUCs) are property restrictions placed on contaminated sites to protect human health and the environment. LUCs may also include institutional controls to prevent access, such as fences and signage.

OU 21 Site 73 (Amphibious Vehicle Maintenance Facility)

is an area where motor oil and battery acid were reportedly discharged directly to the ground surface. The ROD was signed in 2009 to address volatile organic compounds (VOCs) in groundwater and petroleum in soil. The selected remedy included air sparging, substrate (below ground) injections, and MNA for groundwater; and LUCs for soil and groundwater. *Air sparging* was conducted from 2010 to 2012 and injections were conducted in 2011 and 2013. MNA and LUCs are ongoing.



OU 21 Site 73 Injection Well

Air sparging uses air to help remove volatile contaminants from soil and groundwater below the water table. When air is pumped underground, the chemicals evaporate faster, making them easier to remove.

OU 1 Site 78 (Hadnot Point Industrial Area)

consists of maintenance shops, warehouses, painting shops, print shops, and auto body shops. The ROD was signed in 1994 to address pesticides and polychlorinated biphenyl (PCBs) in soil, and VOCs and metals in groundwater. The selected remedy included removal of contaminated soil, *groundwater extraction and treatment*, LTM of groundwater, and LUCs for soil and groundwater.

The soil removal was conducted in 1995.

Groundwater extraction and treatment, LTM, and LUCs are ongoing.



OU 1 Site 78 Corner of Fir Street and East Road

Groundwater extraction and treatment - commonly known as “pump and treat” - involves pumping contaminated groundwater to the surface where it can be treated. Cleaned water is then released away from the contaminated area, either in surface ponds or below-ground.

OU 2 Site 82 (Piney Green VOC Area) was used for storage, disposal, and handling of potentially hazardous waste. The ROD was signed in 1993 to address VOCs, pesticides, and PCBs in soil; and VOCs and metals in groundwater. The selected remedy included *soil vapor extraction (SVE)*, soil removal, groundwater extraction and treatment, LTM of groundwater and surface water, and LUCs. Soil removals were conducted in 1994-1995 and SVE was conducted in 1995. Groundwater extraction and treatment, LTM, and LUCs are ongoing.



OU 2 Site 82 Treatment Plant

Like air sparging, *soil vapor extraction (SVE)* is a process that removes contaminant vapors from below ground for treatment above ground. SVE extracts vapors from the soil above the water table by applying a vacuum to pull the vapors out.

OU 16 Site 89 (Former Defense Reutilization and Marketing Office [DRMO]) is the former Base Motor Pool where solvents were used to clean parts, and the former DRMO, which served as a storage yard for scrap metal, electronics, vehicles, rubber tires, and fuel bladders. The ROD was signed in 2012 to address VOCs in groundwater and surface water and the potential for future *vapor intrusion* from groundwater. The selected remedy included air sparging to treat groundwater below the original source area, *permeable reactive barriers* to treat groundwater that has moved downgradient away from the source area, aerators to treat surface water, MNA, and LUCs. The remedial action was initiated in 2013 and the remedy is in place. MNA and LUCs are ongoing.



OU 16 Site 89 Surface Water Aerator



OU 16 Site 89 Air Sparging Conex Box

Vapor Intrusion is the movement of chemical vapors from contaminated soil or groundwater into nearby buildings. Mitigation methods to lessen the effects of vapor intrusion may be needed until contaminated soil or groundwater is cleaned up.

A *permeable reactive barrier* is a wall created below ground to clean up contaminated groundwater. The wall is “permeable” meaning that groundwater can flow through it. The “reactive” materials that make up the wall treat the contaminated groundwater as it flows through the wall.



OU 10 Site 35 Groundwater Monitoring Wells

Long-Term Monitoring and/or Monitored Natural Attenuation with Land Use Controls

The following sites have remedies in place that include only LTM and/or MNA and LUCs.

OU 12 Site 3 (Old Creosote Plant) supplied treated lumber during construction of the Base Railroad. RODs were signed in 1997 and 2000 to address polycyclic aromatic hydrocarbons (PAHs) in soil and VOCs and PAHs in groundwater. The selected remedy included soil removal, LTM of groundwater, and LUCs for soil and groundwater. The soil removal was conducted in 2000 and LTM and LUCs are ongoing.

OU 2 Site 6 (Lots 201 and 203) is the area where wastes and supplies (including pesticides, transformers containing PCBs, solvents, electrolytes, munitions items and waste oils) were stored or disposed of. The ROD was signed in 1993 to address pesticides and PCBs in soil and VOCs in groundwater. The selected remedy included soil removal, LTM of groundwater, and LUCs. Soil removals were conducted from 1994 to 1995, and LTM and LUCs are ongoing.



OU 2 Site 6 Groundwater Monitoring Wells

OU 1 Site 21 Transformer Storage Lot 140 is where waste oils and pesticides were disposed. A ROD was signed in 1994 to address pesticides and PCBs in soil and VOCs and metals in groundwater. The selected remedy included removal of contaminated soil, LTM of groundwater, and LUCs for soil and groundwater. The soil removal was conducted in 1995. LTM and LUCs are ongoing.

OU 10 Site 35 (Former Camp Geiger Fuel Farm) included five large above-ground storage tanks used to store fuel oil, kerosene, diesel, and gasoline. The ROD was signed in 2009 to address VOCs in groundwater. The selected remedy included air sparging, MNA, and LUCs. Air sparging was conducted from 2010 to 2013 and MNA and LUCs are ongoing.

OU 6 Site 36 (Camp Geiger Dump Area) was reportedly used for the disposal of municipal and industrial wastes including trash, waste oils, solvents, and hydraulic fluids. The ROD was signed in 2005 to address PAHs, pesticides, PCBs, and lead in soil and VOCs in groundwater. The selected remedy included MNA of groundwater and surface water and LUCs. MNA and LUCs are ongoing.



OU 6 Site 36 Brinson Creek

OU 23 Site 49 (Marine Corps Air Station Suspected Minor Dump) is an area that may have been used for the disposal of paint cans and construction debris. The ROD was signed in 2014 to address VOCs in groundwater and potential future vapor intrusion. The selected remedy included MNA of groundwater and LUCs that are ongoing.

OU 14 Site 69 (Rifle Range Chemical Dump) was reportedly used to dispose of chemical wastes, including PCBs and solvents, and chemical agents. The ROD was signed in 2013 to address the potential for chemical agents; buried waste; VOCs, pesticides, PCBs, and metals in groundwater; and potential future vapor intrusion. The selected remedy included installing a multi-layered cap, MNA and LTM of groundwater, and LUCs. The cap was installed in 2014 and MNA, LTM, and LUCs are ongoing.

OU 20 Site 86 (Tank Area AS419-AS421) served as a storage area for petroleum products. The ROD was signed in 2014 to address VOCs in groundwater and potential future vapor intrusion. The selected remedy included MNA and LUCs that are ongoing.

OU 16 Site 93 (Building TC942) housed an underground storage tank for waste oil. The ROD was signed in 2006 to address VOCs in groundwater. The selected remedy included *in-situ chemical oxidation* injections, MNA, and LUCs. The injections were completed in 2008, and MNA and LUCs are ongoing.

The LUCs were updated in 2014 to encompass the current extent of VOCs in groundwater and to address the potential for future vapor intrusion.

In-Situ Chemical Oxidation uses chemicals called “oxidants” to help change harmful contaminants into less toxic ones. It is described as “in situ” because it is conducted in place, without having to excavate soil or pump groundwater for above-ground treatment.

Land Use Controls

Remedies for the following sites include only LUCs. LUCs are inspected quarterly to ensure they are in place and remain protective.

OU 8 Site 16 (Former Montford Point Burn Dump) received materials from the surrounding housing area and buildings. The material is suspected to have been burned and covered with soil and may remain in place. A ROD was signed in 1996 selecting a remedy of no action. However, an Explanation of Significant Differences document was submitted in 2012 making LUCs the selected remedy to prevent exposure to the waste remaining in place.

OU 7 Site 28 (Hadnot Point Burn Dump) was a burn area for industrial waste, trash, oil-based paint, and construction debris. The remains of the burned material were then covered with soil. A ROD was signed in 1996 to address metals in groundwater. The selected remedy included LTM of groundwater and LUCs. *Remedial goals* were met for groundwater and LTM was discontinued in 2002. In 2014, the LUCs were updated to prevent exposure to the waste remaining in-place.

Remedial Goals are the objectives for each selected remedy.

OU 4 Site 41 (Camp Geiger Dump near Former Trailer Park) was used for disposal of construction debris, petroleum-related compounds, solvents, batteries, ordnance, chemical training agents, and pesticides. The ROD was signed in 1995 to address the potential for chemical agents in soil and VOCs and metals in groundwater. The selected remedy included LTM of groundwater, surface water, and sediment, and LUCs for soil and groundwater. Remedial goals were met for groundwater, surface water, and sediment, and LTM was discontinued in 2005. LUCs remain in-place to prevent exposure to potential chemical agents.

OU 6 Site 43 (Agan Street Dump) reportedly received inert material such as construction debris and sewage treatment sludge. The ROD was signed in 2005 to address PAHs in soil. The selected remedy included LUCs that remain in-place.

OU 6 Site 44 (Jones Street Dump) was used for disposal of debris, cloth, lumber and paint cans. The ROD was signed in 2005 to address potential exposure to waste. The selected remedy included LUCs that remain in-place.

OU 6 Site 54 (Crash Crew Fire Training Burn Pit) has served as the fire-training burn pit since the 1950s. The ROD was signed in 2005 to address potential exposure to the former burn pit. The selected remedy included LUCs that remain in-place.

OU 13 Site 63 (Verona Loop Dump) reportedly received bivouac wastes generated during training activities; this waste may remain in place. The ROD was signed in 1997 selecting a remedy of no action. However, an Explanation of Significant Differences document was submitted in 2012 making LUCs the selected remedy to prevent exposure to waste remaining in place.

OU 4 Site 74 (Mess Hall Grease Dump) was used for disposal of drums containing pesticide-soaked bags, PCBs, and chemical agents. The ROD was signed in 1995 to address the potential for chemical agents in soil and metals in groundwater. The selected remedy included LTM of groundwater and LUCs for soil and groundwater. Remedial goals were met for groundwater and LTM was discontinued in 1998. LUCs remain in-place to prevent exposure to potential chemical agents.

OU 11 Site 80 (Paradise Point Golf Course Maintenance Area) where past maintenance procedures and types of waste disposed are unknown. A ROD was signed in 1997 selecting a remedy of no action. However, an Explanation of Significant Differences document was submitted in 2012 making LUCs the selected remedy to prevent exposure to pesticides in soil.

OU 19 Site 84 (Former Building 45) was a former electric substation, where PCB-containing transformers were used, stored, and reportedly buried. The ROD was signed in 2009 to address PCBs in soil. The selected remedy included a soil removal and LUCs. LUCs remain in place to prevent exposure to PCBs in soil.

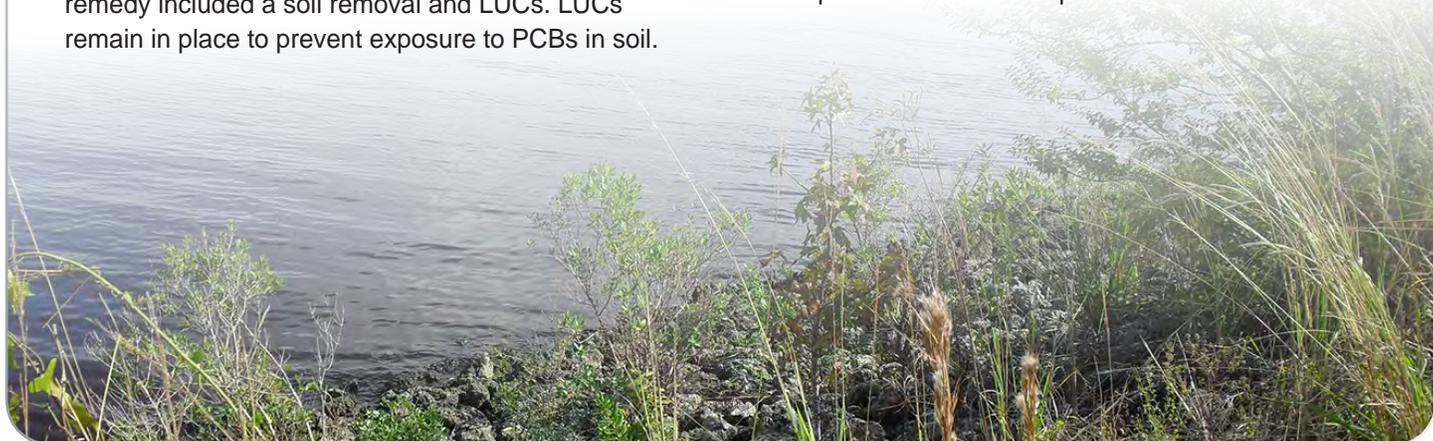
No Further Action

The following sites have achieved “No Further Action” status since the last Five-Year Review because contamination no longer presents a threat to human health or the environment. Therefore, “No Further Action” sites will not be included in future Five-Year Reviews.

OU 7 Site 1 (French Creek Liquids Disposal Area) was used by mechanized, armored, and artillery units. Reportedly, liquid wastes were routinely poured onto the ground surface. A ROD was signed in 1996 to address VOCs in groundwater. The selected remedy included LTM and LUCs for groundwater. Because remedial goals were met for groundwater and LTM was discontinued in 2001, LUCs are no longer required and were removed in 2015. A Remedial Action Completion Report was prepared in 2015 to document that the remedial response has been completed.

OU 5 Site 2 (Former Nursery/Day Care Center) consists of Building 712, which was used for storing, handling, and dispensing pesticides. A ROD was signed in 1994 to address VOCs and metals in groundwater and pesticides in soil. The selected remedy included LTM for groundwater and LUCs for groundwater and soil. Remedial goals were met for groundwater and LTM was discontinued in 2008. The former remediation goals for soil were reviewed and meet current standards. Therefore, a Remedial Action Completion Report is recommended to document that LUCs are no longer needed and the response has been completed.

OU 1 Site 24 (Former Industrial Area Fly Ash Dump) was used for disposal of fly ash, cinders, solvents, used paint stripping compounds, sewage sludge, and water treatment sludge. The ROD was signed in 1994 to address pesticides and metals in groundwater. The selected remedy included LTM of groundwater. Remedial goals were met for groundwater and LTM was discontinued in 1998. A Remedial Action Completion Report is recommended to document that the response has been completed.



CONCLUSIONS AND NEXT STEPS

The Five-Year Review indicated that all ongoing remedial actions continue to protect human health and the environment. However, for some remedies to continue to be protective in the long-term, the following recommendations are planned:

Recommendations	Sites									
	OU 1		OU 2		OU 5	OU 6		OU 10	OU 20	OU 21
	24	78	6	82	2	36	54	35	86	73
Collect groundwater samples for 1,4-dioxane because a regional screening level was established and indicator constituents are present in groundwater.		✓	✓	✓					✓	
Collect groundwater samples for perfluorinated compounds because it is an emerging contaminant group and former fire-fighter training was conducted and is indicative of its use.							✓			
Add an Industrial/Non-Industrial Use Control Boundary for vapor intrusion based on potential for a future vapor intrusion pathway.		✓	✓	✓		✓		✓		✓
Add an Intrusive Activities Control Boundary for munitions as explosive hazards may be present within the boundary of UXO-22.			✓	✓						
Re-evaluate effluent standards for the groundwater extraction and treatment system based on current State and Federal criteria.				✓						
Evaluate expanding or modifying the existing treatment system and/or evaluate alternative treatment technologies.			✓	✓						
Continue groundwater remedy evaluation to determine what changes are needed and refine the conceptual site model to evaluate the extent of groundwater contamination and exposure pathways.		✓								
Complete assessment of the extent of chemicals of concern in site media and update groundwater land use controls as applicable.			✓	✓						
Re-evaluate human health and ecological risks in Wallace Creek based on chemical of concern detections in surficial groundwater and porewater.				✓						
Compare groundwater data collected from the most downgradient locations closest to Brinson Creek to 10 times the surface water standards; instead of modeling and surface water sampling; to monitor future protectiveness of Brinson Creek.						✓				
Prepare a Remedial Action Completion Report to document remedy completion because cleanup levels were met.	✓				✓					

The next Five-Year Review for MCB Camp Lejeune will be completed in 2020.

FOR MORE INFORMATION

If you have questions about the Environmental Restoration Program, please contact the Base Environmental Management Division:

Charity Delaney
(910) 451-9385
charity.delaney@usmc.mil

For general information about the MCB Camp Lejeune Environmental Restoration Program please visit:

<http://go.usa.gov/Dy5T>



The Administrative Record is a database of all documents included in environmental decision-making for MCB Camp Lejeune. Internet access to the website or the Administrative Record may be obtained at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
910-455-7350

Investigation Activities in the Wallace Creek Area

Marine Corps Base Camp Lejeune, North Carolina

December 2015



The purpose of this fact sheet is to notify you that munitions items or munitions-related debris may be present in the Wallace Creek Area from the former use as a skeet range and for troop-training activities. **As a precaution, no digging or other land-disturbing activities are allowed in the Wallace Creek Area without prior permission from Base Environmental Management Division until investigations have been completed.** Evidence indicates that buried munitions-related hazards may remain in the area and adhering to the no-digging restrictions will ensure the safety of visitors and personnel around the buildings while additional investigations are conducted. This fact sheet summarizes these investigation activities and provides information on munitions safety.

Background

Two Military Munitions Response Program (MMRP) sites are located within the Wallace Creek Area: Site UXO-23, a former skeet range; and Site UXO-28, a former Tactical Landing Zone used for troop training. Sites UXO-23 and UXO-28 overlap and are shown on **Figure 1**.

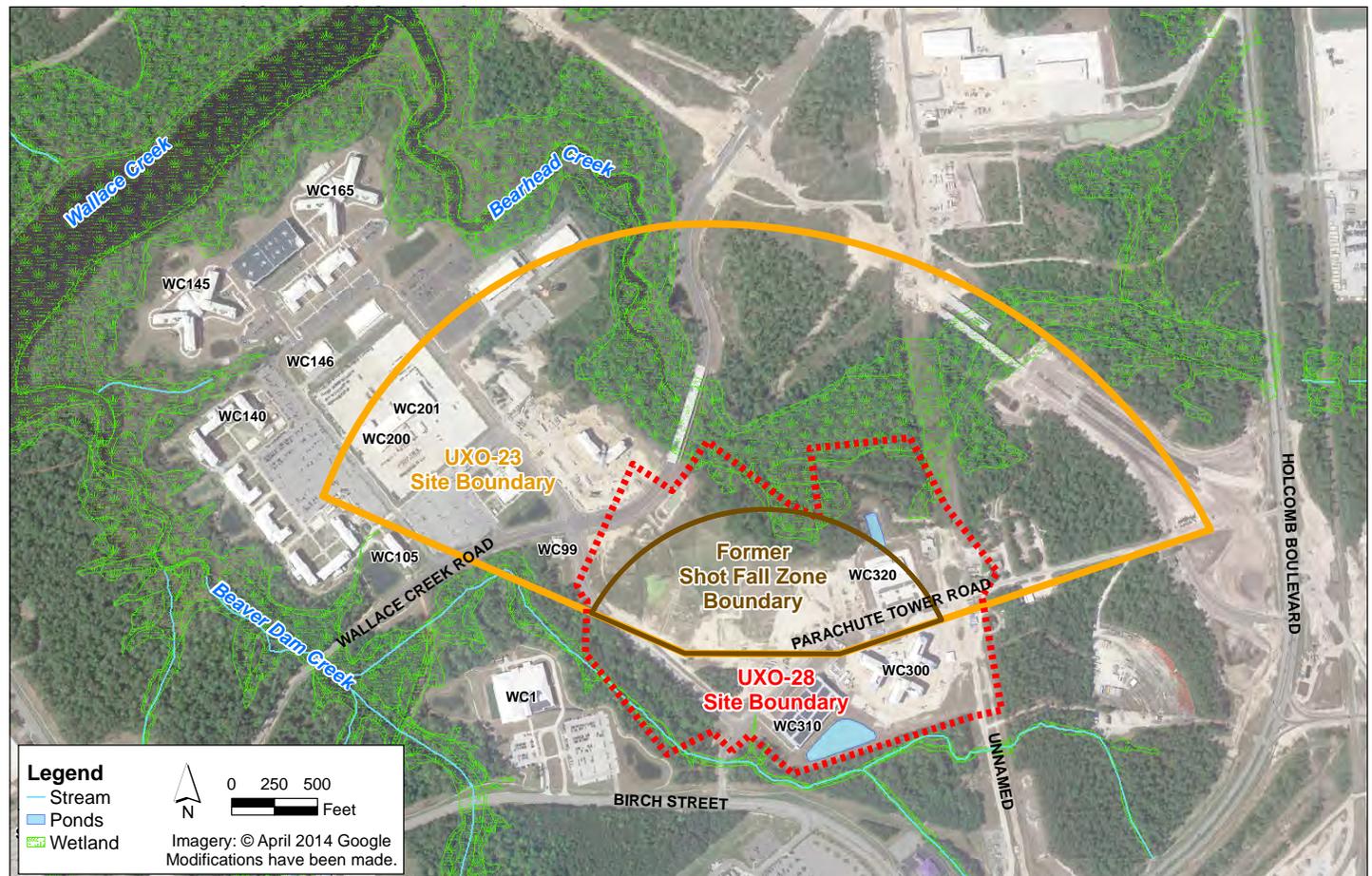
Environmental investigations have been ongoing at these sites since 2007, and actions to remove skeet debris and contaminated soil from Site UXO-23 have been ongoing since 2012. During the removal action activities and during construction within the Wallace Creek Area, small arms ammunition and more than 20 munitions items

and munitions-related debris, such as 3.5-inch practice rockets and grenades, were found below the ground surface, indicating the potential for additional buried hazards.

In October 2015, munitions experts conducted a site walk within the accessible areas south of Parachute Tower Road to identify and remove munitions items or debris from the ground surface. No munitions-related items were found in this area.

Additional investigations to determine if munitions-related hazards requiring cleanup remain in the Wallace Creek Area will begin in December 2015. **It is important that all personnel follow the no-digging restrictions until these investigations have been completed.**

Figure 1 – UXO-23 and UXO-28 Location





Site UXO-23

Site UXO-23 was used as a skeet range from 1953 to 2011. Potential environmental contamination from skeet ranges includes lead and polycyclic aromatic hydrocarbons (PAHs) from the ammunition and clay pigeons (skeet) used. Investigations at Site UXO-23 began in 2007 and skeet debris, lead, and PAHs have been identified in soil and groundwater within the former shot fall zone of the skeet range.

A removal action has been ongoing at Site UXO-23 since 2012 to address the skeet debris and soil contamination. Additional skeet debris and soil will be removed from the shot fall zone starting in January 2016 and should be completed by April 2016. Groundwater monitoring wells will be installed following completion of the soil removal project to gather more information on the location and amount of lead and PAH contamination in the groundwater.

Site UXO-28

Site UXO-28 was a former tactical landing zone used for troop training from 1954 to the early 2000s. Munitions items may have been used in association with maneuver training activities at the site.

An investigation to identify and map potential buried metallic debris in open areas around buildings on Site UXO-28 will begin in December 2015. Specialized metal detection equipment will be used on roughly ten percent of the site to identify areas where buried metallic items or debris are located. The areas identified will be excavated to determine if the buried items are munitions or munitions-related debris. Any items that pose a munitions-related hazard will be safely disposed. Soil samples will also be taken from these areas and groundwater sample may be conducted in the future if the excavations or soil samples indicate potential munitions-related contamination that could affect the groundwater.

Hazards and Restrictions

Contact with munitions may result in injury or death. Ground disturbance activities are prohibited in and around the Wallace Creek Area unless authorized by the Base Environmental Management Division. Digging restrictions protect personnel and visitors from exposure to buried munitions hazards and soil or groundwater contamination at Site UXO-23 or Site UXO-28 by preventing contact or disturbance. When within the Wallace Creek Area, remember the "3 Rs" (Recognize, Retreat, Report). Additionally, the groundwater under UXO-23 and UXO-28 is not used as a drinking water source. All drinking water provided to Camp Lejeune residents and personnel is tested routinely to ensure it meets safe drinking water requirements

Munitions Safety



Until the munitions investigations have been completed, any ground disturbance or intrusive activities (such as grading, digging, utility installation, etc.) within the Wallace Creek Area must be coordinated with Camp Lejeune's Environmental Management Division at (910) 451-9385.

The "3 Rs" of munitions safety are always important to know, especially in areas around active or former ranges. Munitions are sometimes hard to identify. If you have found something you cannot identify as NOT being a munitions item:

- RECOGNIZE – Do not touch it
- RETREAT – Note the location and move away
- REPORT – Notify Blackburn (Range Control) at (910) 451-3064 or Call 911

Camp Lejeune Explosive Ordnance Disposal (EOD) can identify and safely dispose of suspected munitions.



Example of munitions items found within the Wallace Creek Area.

For More Information

If you have questions about the Environmental Restoration Program, please contact the Base Environmental Management Division:

Charity Delaney at (910) 451-9385
Email: charity.delaney@usmc.mil

Website: <http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt.aspx>

A report summarizing the upcoming investigation at UXO-28 will be developed. All reports on investigations related to UXO-23 and UXO-28, as well as other documents for Camp Lejeune's Environmental Restoration Program, can be found online at: <http://go.usa.gov/Dy5T>

Internet access and general information about Camp Lejeune's Environmental Restoration Program can be obtained at:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
910-455-7350

Investigation Activities in the New River Expansion Area (UXO-29)

Marine Corps Air Station New River, North Carolina

December 2015

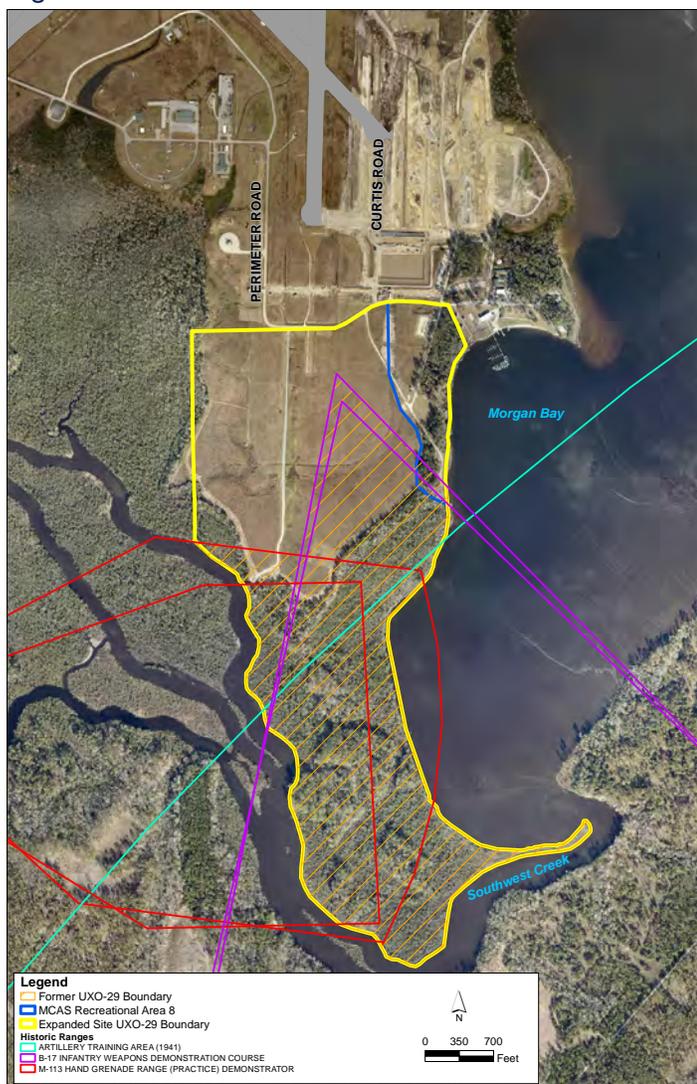


The purpose of this fact sheet is to notify you that evidence indicates munitions items or munitions-related debris may be present from former range activities in the UXO-29 Military Munitions Response Program (MMRP) site (Figure 1). As a precaution, no digging or other land disturbing activities are allowed within the vicinity of UXO-29 without prior permission from the Environmental Management Division (EMD) until investigations are complete (Figure 2). This fact sheet summarizes these investigation activities and provides information on munitions safety.

Background

The MMRP Site UXO-29 covers approximately 286 acres located west of Morgan Bay, south of the north/south runway of the Marine Corps Air Station (MCAS), and south of Perimeter Road and Demarcus Street (Figure 1).

Figure 1 – UXO-29 Location



The site encompasses portions of three historical ranges. Former Infantry Weapons Demonstration Course, B17 was active from 1946 to 1947 and reportedly used small arms, rockets, mortars, and projectiles. Former Artillery Training Area was active from 1941 to 1943 and reportedly used 75 millimeters (mm), 105 mm, and 155 mm projectiles. Former hand grenade range, M113 (practice demonstrator), was active from 1970 to 1977 and was reportedly used for hand grenade training.

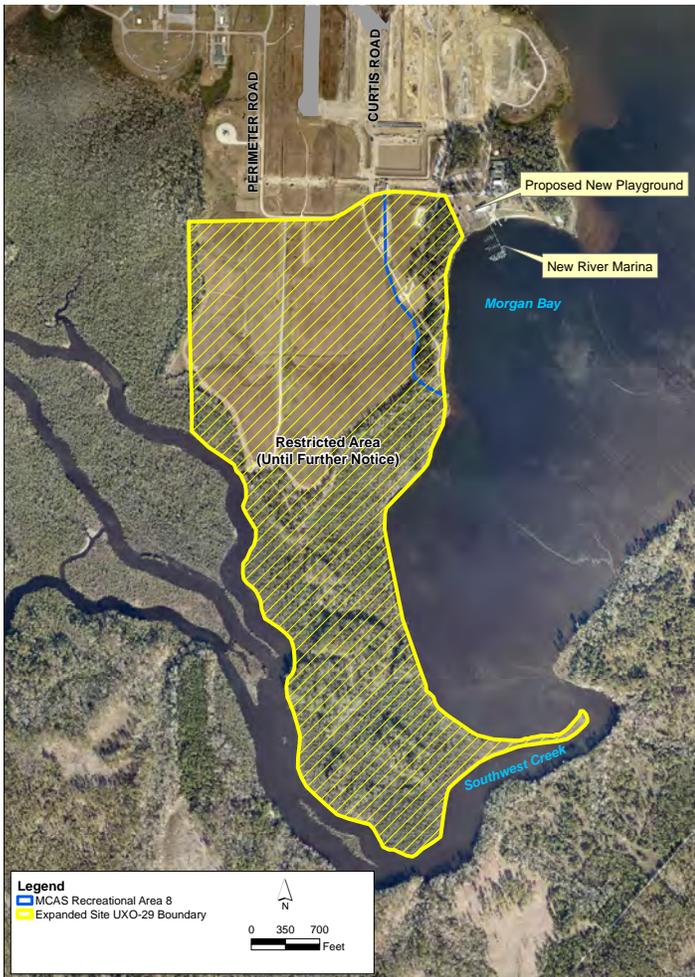
A munitions removal action was conducted in the northern portion of UXO-29 between 2013 and 2014 to allow safe construction of a new fence, subsurface utilities, and roadway. Over 300 munitions items and munitions-related debris such as 2.36-inch rockets, grenades, and mortars were found in the northwestern portion of the Site. The area where the munitions items and debris were found is outside of where historical ranges were previously documented, indicating the potential for additional buried hazards in the surrounding areas of Site UXO-29 (Figure 1). As a precaution, the MCAS Recreational Area 8 (including the playground and campground) has been added to the Site UXO-29 Site investigation because of the proximity to the historic ranges and the discovery of munitions items nearby. The areas are now closed while we conduct additional investigation to ensure the facilities are safe for our Marine Corps personnel and their family members (Figure 2).

Investigation Activities

An investigation to identify and map potential buried metallic debris will begin in 2016. Specialized metal detection equipment will be used, prior to the construction of the new playground area and the accessible areas in the northern portion of Site UXO-29, to identify the extent and concentration of buried metallic items. The southern coastal wetlands of Site UXO-29 will be investigated through a visual and metal detector-aided survey in accessible areas. The identified potential metallic debris will be excavated to determine if the buried items are munitions or munitions-related debris and safely dispose of any items posing a munitions-related hazard. Soil samples will also be taken from these areas and groundwater sampling may be conducted in the future if the excavations or soil samples indicate potential munitions-related contamination that could impact the groundwater.



Figure 2 – UXO-29 Location



The results of the investigation will be evaluated to identify if there are potential risks to human health and the environment. A report will be prepared to summarize the investigation activities conducted, present the findings, and provide recommendations.

Hazards and Restrictions

Contact with munitions may result in injury or death. Ground disturbance activities are prohibited in and around UXO-29 (Figure 2) unless authorized by the Marine Corps Base Camp Lejeune (MCB CAMLEJ) EMD Office. Digging restrictions protect personnel and visitors from exposure to buried munitions hazards at UXO-29 and potential soil or groundwater contamination by preventing contact or disturbance. Additionally, it is important that all Marine Corps personnel and family members stay out of the MCAS Recreational Area 8 until the investigation is complete to ensure your safety (Figure 2). When in open portions of Site UXO-29, remember the “3 Rs” (Recognize, Retreat, Report). Additionally, the groundwater under UXO-29 is not used as a drinking water source. All drinking water provided to MCB CAMLEJ and MCAS New River residents and personnel is tested routinely to ensure it meets safe drinking water requirements.

Munitions Safety



Until the munitions investigations have been completed, any ground disturbance or intrusive activities (such as grading, digging, utility installation, etc.) within the area must be coordinated with Camp Lejeune’s Environmental Management Division at (910) 451-9385.

The “3 Rs” of munitions safety are always important to know, especially in areas around active or former ranges. Munitions are sometimes hard to identify. If you have found something you cannot identify as NOT being a munitions item:

- RECOGNIZE – Do not touch it
- RETREAT – Note the location and move away
- REPORT – Notify Blackburn (Range Control) at (910) 451-3064 or Call 911

Camp Lejeune Explosive Ordnance Disposal (EOD) can identify and safely dispose of suspected munitions.



Example of munitions items found within Site UXO-29.

For More Information

If you have questions about the Environmental Restoration Program, please contact the Base Environmental Management Division:

Charity Delaney at (910) 451-9385

Email: charity.delaney@usmc.mil

Website: <http://www.lejeune.marines.mil/OfficesStaff/EnvironmentalMgmt.aspx>

A report summarizing the upcoming investigation at UXO-29 will be developed. All reports on investigations related to UXO-29 and other general information about the Camp Lejeune Environmental Restoration Program please visit:

<http://go.usa.gov/Dy5T>

Internet access and general information about Camp Lejeune’s Environmental Restoration Program can be obtained at:

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 910-455-7350

D

Appendix D Sources



Photo by Cpl. Damany S. Coleman

Appendix D

Sources

The following resources, references, and websites were used to develop the Camp Lejeune CIP. Not all documents referred to in the formulation of this document are specifically cited in the text.

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E

Appendix E *Acronyms*



APPENDIX E

Acronyms and Abbreviations

AM	Action Memorandum
AOCS	Areas of Concern
AOPC	Areas of Potential Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
EJSCREEN	Environmental Justice mapping and screening tool
EMD	Environmental Management Division
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
ESI	Expanded Site Inspection
FFA	Federal Facilities Agreement
FS	Feasibility Study
GAC	Government Affairs Committee
HSWA	Hazardous and Solid Waste Amendments of 1984
IAS	Initial Assessment Study
IRP	Installation Restoration Program
MAC	Military Affairs Committee
MCAS	Marine Corps Air Station
MCB Camp Lejeune	Marine Corps Base Camp Lejeune
MMRP	Military Munitions Response Program
MRP	Munitions Response Program
NACIP	Navy Assessment and Control of Installation Pollutants
NAVFAC	Naval Facilities Engineering Command
Navy	Department of Navy
NC	North Carolina
NCDEQ	North Carolina Department of Environmental Quality
NPL	National Priorities List
NTCRA	Non Time Critical Removal Action
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Inspection
PP	Proposed Plan
PAO	Public Affairs Office/Public Affairs Officer
PRAP	Proposed Remedial Action Plan
QR	Quick response
RA	Remedial Action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act

RD	Remedial Design
RI	Remedial Investigation
RI/FS	Remedial Investigation and Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SDZ	Surface Danger Zone
SI	Site Inspection
SMP	Site Management Plan
TAG	Technical Assistance Grant
TAPP	Technical Assistance for Public Participation
TCRA	Time Critical Removal Action
U.S.	United States
USEPA	United States Environmental Protection Agency
USMC	United States Marine Corps
UXO	Unexploded Ordnance
VI	Vapor Intrusion